REVISION OF *PAVETTA* SUBGENUS *BACONIA* (RUBIACEAE: IXOROIDEAE) IN CAMEROON[1]

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ABSTRACT

Pavetta subg. *Baconia* (Rubiaceae tribe Pavetteae) is a group of forest shrubs in tropical and subtropical Africa. It includes species of *Pavetta* with bearded corolla throats, corolla tubes usually shorter than corolla lobes, terete or subterete style tips, and fruits usually of colors other than black. Cameroon is a major center of diversity for subgenus *Baconia*, and the Cameroon species are revised here. Twenty-nine species are recognized, including eleven newly described; five previously recognized species are placed in synonymy. Seven series used earlier to subdivide subgenus *Baconia* have been abandoned owing to inconstancy of character states used to delimit most of them. Sixteen Cameroon species are presently unreported from elsewhere. Infraspecific taxa are recognized in seven of the twenty-nine species. Aspects of leaf morphology are useful taxonomically. An overview is provided of these, other aspects of morphology, habitat preferences, and reproductive strategies. Habitat preferences, distributions, and distinguishing features follow descriptions of each species.

Pavetta L. consists of about 400 species of shrubs (less often small trees or geofrutices) in forest understories (less often savannas) of the paleotropics and paleosubtropics. Its center of diversity is in Africa. Most taxa bear characteristic bacterial nodules sensu Lersten & Horner (1976) on their leaves (Zimmermann, 1902; von Faber, 1912; Lersten, 1974, 1975; Lersten & Horner, 1976). Most species are infrequently collected. The similar genus *Ixora* L. is distinguished from *Pavetta* in having style tips recurved at maturity, and no species of *Ixora* have bacterial nodules (Bremekamp, 1934). The taxonomic history of *Pavetta* is recounted by Bremekamp (1934: 12–13), who produced the only comprehensive monograph of the genus (1934, 1939a, 1939b). By 1939 Bremekamp had recognized 377 species, 206 described by himself, and 3 subgenera: *Eupavetta* Bremek., correctly referred to as subgenus *Pavetta* (316 species, Africa, Arabia, Asia, tropical Australia, Sri Lanka, Melanesia, Philippines); *Baconia* Bremek. (58 species, all African); and *Dizygoön* Bremek. (3 species, all tropical African).

De Candolle (1807) described the monotypic genus *Baconia* DC. with *B. corymbosa* DC. (presently *Pavetta corymbosa* (DC.) F. N. Williams). He distinguished *Baconia* by its 4-merous flowers not surrounded by bracts, bearded corolla throat, nonciliated stipules, projecting anthers, and "simple stigmas." *Baconia* was reduced to synonymy of *Pavetta* by Bentham and Hooker (1873), followed by Hiern (1877). Bremekamp (1934) recognized *Baconia* as a subgenus, including members of *Pavetta* with the following characters: bearded corolla throat; short, stout corolla tubes; minute bracteoles at flower bases; and white or colored drupaceous fruits. This group was kept by Bremekamp within *Pavetta*, rather than restoring it as a genus, because of its tetramerous flowers, cylindrical upper part of style, small stigmatic lobes, and, in most species,

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bacterial nodules. Since then, new taxa have been described and others placed in synonymy within subgenus *Baconia* (e.g., Bremekamp, 1953, 1956; Adam, 1973; Bridson, 1978), but its circumscription remains otherwise unchanged. The defining character is the bearded corolla throat; other characters listed by A. P. de Candolle, Bremekamp, and others are not universal or are shared with related taxa.

Bremekamp (1934: 21) noted that the species of subgenus *Baconia* were closely related and did not divide it into sections as he did subgenus *Pavetta*. He divided it into seven series based on number of ovules per locule and branching, nodule, and vestiture characters. Added collections since then reveal that, within series (even within species), characters upon which series were separated are not constant. Those series are thus not recognized here. Similarly, Bridson (1978) and Bridson and Verdcourt (1988) did not recognize the series in treatments of East African species.

Methods

Classical alpha taxonomy methods were used in this study, supplemented by field observations and collections in Cameroon. In addition, certain characters (whether more than 10% of calyx lobes overlap at the base at maturity, whether the corolla throat beard characteristic of subgenus *Baconia* extends onto the corolla lobes, calyx lobe shape and length, corolla lobe and tube lengths, style exsertion length, leaf venation pattern, and leaf venation density) were treated morphometrically. Their averages sometimes distinguish species despite overlapping intraspecific ranges. At least 10 and, when sufficient material was available, 20 or more measurements per taxon were made for such characters to determine the average character state. Chi-square analyses were performed to determine whether taxa had more than 10% of their calyx lobes overlapping at the base at the $p = .05$ confidence level.

Habit

All of the 29 species of *Pavetta* subg. *Baconia* in Cameroon are woody. The majority are understory forest shrubs 1–5 m tall when flowering or fruiting. Representatives of seven species have been recorded on herbarium labels as taller than 5 m.

Vestiture

Vestiture, when present, consists of unbranched erect to appressed or less often reflexed trichomes from less than 0.01 to more than 0.5 mm long; trichomes toward the short end of this range are more common than longer ones.

Stems

The main stems of *Pavetta* subg. *Baconia* are monopodial, usually with limited branching. Branches are usually monopodial but occasionally exhibit sympodial growth, e.g., in *P. baconiella* Bremekamp. The branches are often floriferous twiglets with terminal inflorescences. Limited vegetative lateral branching also occurs. Vestiture ranges from absent to dense, the density often increasing toward the apex.

Leaves

As in nearly all Rubiaceae, leaves are simple and opposite with margins entire, although a slightly undulate margin sometimes occurs. Leaves are almost always darker green above than below. Leaves vary from membranaceous to coriaceous and are usually chartaceous to subcoriaceous.

Anisophylly. In most species, pairs of leaves immediately or one node below inflorescences are sometimes unequal in size; the degree of anisophylly varies within species. Anisophylly is never present at all nodes. Leaf blade size ranges described include anisophyllous leaf pairs.

Blade size and shape. Leaf blade size and shape are variable within species and overlap between species. Used with caution, these are nevertheless useful and convenient taxonomic characters in some species. See Manning (1991) for estimates of reliability of leaf size and other characters in *Pavetta rigida* Hiern (subg. *Pavetta*).

Acumens. Most species have leaves with tapering acumens, but some leaves lack acumens in most species. Typical acumens in subgenus *Baconia* are about 10 mm long and 5 mm across at the base.

Apices. Descriptions of apices here include those of nonacuminate leaves and of acuminate leaves below their acumens, as if the directions of the two converging leaf margins below the acumen continued unchanged until they met. In most species, most leaf apices are acute and some are obtuse.

Bases. In all species leaf blade bases are at least occasionally attenuate part or all the way to their point of attachment to the stem as seen at 10×. To the naked eye, most bases appear cuneate or subcuneate, some appear attenuate, and there is significant variation within most species. Asymmetrical bases are common in subgenus *Baconia*.

Venation patterns. Venation characters are described in some detail below and included in species descriptions because they are of diagnostic value, have not been emphasized previously, and are used in keys. They are reported as visible on illuminated, untreated leaves at 10× magnification. Terminology and definitions follow Hickey (1973) except measures of venation prominence and density, described below.

Leaves in subgenus *Baconia* have brochidodromous to eucamptodromous venation. Intermediates are very common, i.e., secondary veins usually branch and become smaller near leaf blade margins but these branches then join the next most distal secondary vein near the leaf margin.

Whether leaf venation, especially fourth- and fifth-order veins, is more easily visible above, below, or neither when illuminated at 10× is usually characteristic of species and thus of taxonomic value at the species level.

Venation prominence. Venation is classified here as prominent, prominulous, intermediate, obscure, impressed, or invisible. Prominent and prominulous veins occur only on lower leaf surfaces. Prominent venation is a term reserved for leaves in which veins protrude from leaf blades most conspicuously to the naked eye. Prominulous means subprominent, though prominulous veins do clearly and significantly protrude below the leaf blade. Vertical protrusion of more than 0.5 mm may qualify a vein to be prominulous; often at least 180° of arc of the vein is visible. Obscure means hard to see when illuminated at 10×. Impressed venation means veins are at a lower level, as seen from above, than the upper leaf surface. The upper leaf surface usually arcs downward toward the veins and upward between them. Venation is intermediate in prominence if not described as prominent, prominulous, obscure, impressed, or invisible.

Prominulous leaf veins are very common. On individual leaves, veins often grade from prominulous near the base to intermediate near the apex.

Tertiary veins. Tertiary veins vary from sometimes orthogonal reticulate through random reticulate to most commonly percurrent, i.e., "tertiaries from the opposite secondaries joining," sensu Hickey (1973), though they sometimes branch. Tertiary veins are usually oblique to the midrib, but occasionally subperpendicular to it.

Higher order veins. Fourth- or fifth-order veins are reticulate. With rare exceptions, the areoles sensu Hickey (1973) so formed range from 0.2 to 3 mm across; the majority are 0.5 to 2 mm across. Veins forming areoles further branch into veinlets terminating inside areoles with or without yet further branching. Areolation in most species is imperfect sensu Hickey (1973), i.e., forming "meshes of irregular shape, more or less variable in size."

Venation density. Leaf venation density was determined by counting the number of veins or veinlets crossed per millimeter of straight line distance on blades, then averaging at least 10 such counts per taxon counted. Veins or veinlets crossed include any veins from secondaries to the lowest order veinlets seen on herbarium specimens illuminated at 10×. Including the midrib or areas very close to margins was avoided when possible. Otherwise measurement locations were selected subrandomly except (1) when only small portions of leaf surfaces revealed higher order venation clearly, such portions were used and (2) measurements were intentionally spread over different specimens when more than one specimen was available.

Density data in species descriptions are all based on averages of counts performed as above and range from two veins or veinlets crossed per millimeter in *Pavetta grossissima* S. D. Manning (very coarse) through three (coarse), four (medium), five (fine), six (very fine), to seven per millimeter (extremely fine) in *P. tenuissima* S. D. Manning. Density is most often medium to fine. This character is of diagnostic value in species having unusually coarse or fine leaf venation. Single density measurements are occasionally significantly higher or lower than average for a taxon, so at least several counts must be made on each plant for which this character is used diagnostically.

Domatia. Along veins on lower leaf surfaces of most species are hollows, areas of denser vestiture than the rest of the leaf, or both. These occur most often in angles of branch veins along midribs, sometimes along secondaries, and occasionally along tertiaries. The descriptions of these structures here as tuft, pocket, pit, crypt, and intermediate between pit and crypt are sensu Robbrecht (1988).

Although some taxa are relatively constant with respect to presence and types of domatia, others are quite variable. Even in species that usually bear domatia, not every branch vein angle along the midrib has a domatium, and whole leaves or specimens may lack domatia.

Nodules. In leaves of over 80% of *Pavetta* species, including African and other species of subgenus *Pavetta* and a similar percentage of subgenus *Baconia*, are black growths termed bacterial nodules (Bremekamp, 1934; Lersten, 1974, 1975; Lersten & Horner, 1976) or leaf galls (Robbrecht, 1988, including illustrations). These vary greatly in shape from punctate or pustuliform to linear or ramified. Punctate and pustuliform nodules are

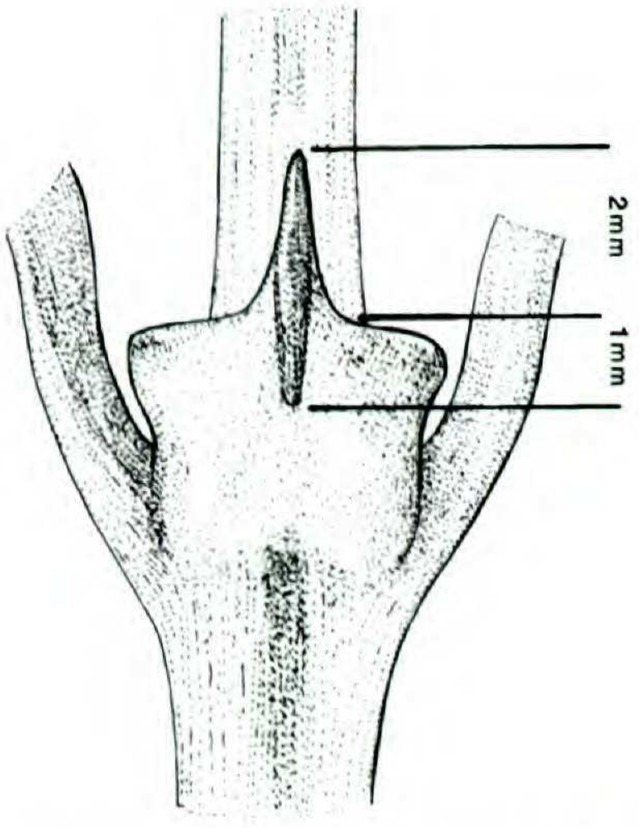


Figure 1. Awned stipule. The awn is defined to include only the upper 2 mm, analogously to a leaf acumen.

usually scattered on blades; linear ones are often along the midrib. Similar nodules are uncommon in other Rubiaceae but are present in 74 African and Madagascan species of *Psychotria* L. and 12 of 17 species of African *Sericanthe* E. Robbrecht (Robbrecht, 1988). In all *Pavetta* species in which nodules occur except *P. urophylla* Bremekamp, they appear on upper leaf surfaces. In *P. urophylla*, like *Psychotria* species, they appear on lower leaf surfaces.

In subgenus *Baconia*, three of Bremekamp's seven series were separated on nodule characters; nodules were variously distributed in his other series. Material observed since Bremekamp's monograph reveals that nodule characters are not consistent enough to assign them as much diagnostic importance as he did. Nodules have been found in all but 2 (*Pavetta rubentifolia* S. D. Manning and *P. molundensis* K. Krause) of the 29 species of subgenus *Baconia* in Cameroon. In nearly half of the species, however, they are sometimes or usually absent. Within specimens, some leaves may reveal a few nodules and others none. In some species, some leaves have profusions of conspicuous nodules while others do not. In most species, most nodules are subpunctate and scattered. In others they tend to be mostly linear and associated with major veins.

Stipules. Single-awned, entire-margined, opposite interpetiolar stipules whose awns are decussate with the leaf pair at the same node are universal in subgenus *Baconia*. Bases of opposite stipules are connate just above petiole bases. Stipules thus sheathe the stem at each node. Stipule awns were measured analogously to leaf acumens, as in Figure 1 in which the awn is cuspidate and 2 mm long. Care must be taken in using awn length diagnostically in subgenus *Baconia*; the tips often break off. In some species stipules are also partly deciduous below their awns.

Inflorescences

Position. Inflorescences in subgenus *Baconia* are almost always terminal on floriferous twiglets, which can be up to 37 cm long. Floriferous twiglets are absent at some nodes, rendering inflorescences at those nodes axillary. Such axillary inflorescences sometimes occur along with terminal ones in collections of *Pavetta camerounensis* S. D. Manning, *P. grossissima*, and *P. tenuissima* made since the second edition of the *Flora of West Tropical Africa* (Hepper & Keay, 1963) and are exceptions to the key to genera of Rubiaceae therein (p. 105), which distinguishes between genera with terminal and axillary inflorescences. At nodes bearing axillary inflorescences, there are typically two oppositely arranged inflorescences. In no species of subgenus *Baconia* are all inflorescences axillary.

Inflorescences are most often solitary but, in some species, some inflorescences are clustered at termini of floriferous twiglets. When inflorescences are so clustered, those on side branches sometimes overtop the central one. Bremekamp (1934) used such overtopping and floriferous twiglet internode lengths to separate three series of subgenus *Baconia* from three others. These characters vary so much within taxa that they are not used diagnostically here.

Architecture. Inflorescences, whatever their shape, are dichasia or modified dichasia which are nearly always compound. Although flowers are usually close enough to each other for corolla lobes of adjacent flowers to overlap, the main branches of inflorescences are sometimes far enough apart that these inflorescences are described as having subunits.

Dimensions and flower number. With rare exceptions, inflorescences are 20 cm or less across. Their sizes and degrees of congestion, though variable within species, are important distinguishing characters between some species.

There are rarely only 1–5 to sometimes more than 400 flowers per inflorescence in subgenus *Baconia*. Flower number is often not a good diagnostic character because within species maximum number of flowers per inflorescence typically is about 10 times the minimum number.

Phenology. Flower opening within an inflorescence usually occurs subsynchronously (flowers toward the center of inflorescences tending to open slightly earlier) after an extended period in full-sized bud.

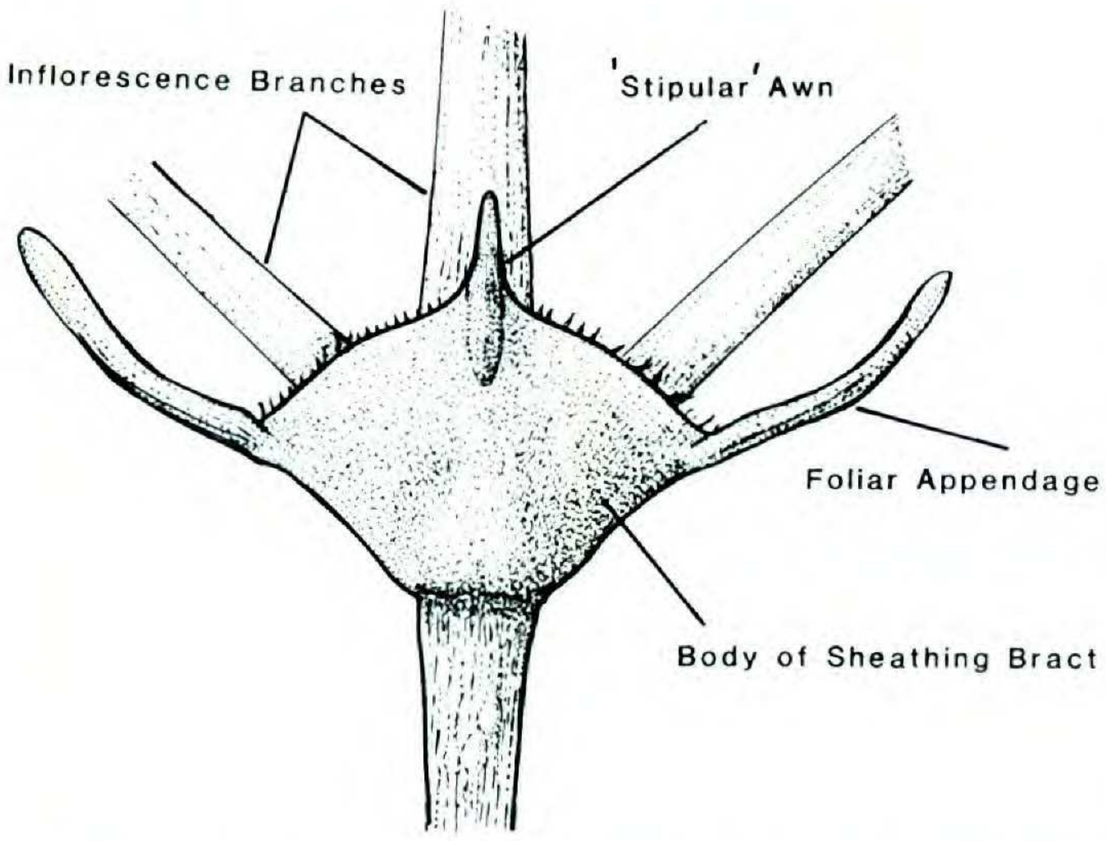


Figure 2. Sheathing bract at base of an inflorescence, showing a normal stipular awn and foliar appendages. The latter look like reduced leaf blades from above or below.

Fruits on an infructescence also usually develop and mature subsynchronously. Sometimes only one or a few fruits develop; often many do. Complete fruits persist on infructescences after ripening.

Bracts, peduncles, and inflorescence delimitation. These features are treated below in some detail either because previous treatments have not done so (bracts) or to clarify or simplify previous treatments (peduncles, inflorescence delimitation). These features have diagnostic value in some species and are used (bracts) or necessary to interpret characters used (peduncles, inflorescence delimitation) in the keys to species.

Bracts. Bracts as described here are of four types: sheathing, foliar, other, and bracteoles.

a. Sheathing bracts. Sheathing bracts are opposite and connate, thus sheathing the axis that bears them. They are present at inflorescence bases and usually also at bases of higher inflorescence branches. They are presumably homologous to stipules, often look like them, and usually bear cuspidate to linear awns in positions one would expect awns on stipules. They sometimes bear additional awns or fimbriae at right angles to the "stipular" position and occasionally in other positions. Numbers and positions of additional bract awns sometimes vary on individual plants. Connation of opposite bracts is often so pronounced that the sheath formed assumes the shape of a cup or, if spreading, of a saucer. At times, sheathing bracts bear foliar appendages. In such bracts the sheathing tissue is adnate to the foliaceous tissue, and the foliar appendages are decussate to the "stipular" position. Such sheathing bracts also bear awns or fimbriae in the normal "stipular" position, and are homologous to a leaf pair and stipule pair. Figure 2 illustrates such a bract.

b. Foliar bracts. Foliar bracts are only sporadically present in subgenus *Baconia*. They are petiolate, unlike foliar appendages on sheathing bracts. Foliar bracts resemble reduced foliage leaves in position and shape, although they are sometimes more reduced in length, proportionately, than in width. They sometimes occur on the main inflorescence axis and sometimes on side branches of the inflorescence subtending flower clusters. Distinctions between foliage leaves, foliar bracts, stipules, and sheathing bracts are illustrated in Figure 3.

c. Other bracts. These are usually more distal in inflorescences than sheathing bracts. They usually range from wedge-shaped to ovate, obovate, or linear and often bear 1–several fimbriae or a tuft of hairs at or near their apices. They can vary considerably in shape within specimens. The largest are distinguishable from sheathing bracts only in that they do not quite sheathe the inflorescence axis. These usually subtend upper inflorescence branches. Smaller ones are usually along side branches. The most reduced ones are fimbriae or awnlike structures on inflorescence branches.

d. Bracteoles. These include all bracts on individual pedicels. They are small and resemble the smaller of the "other bracts" described above. They often take the form of fimbriae as in Figure 4. Their positions on their axes vary. Figure 4 depicts typical variation in nonfoliar bracts and bracteoles.

Peduncles. Little and Jones's (1980) definition of peduncle, in relevant part, is employed here: "the stalk of an inflorescence." The base of the peduncle is at the node of the most apical pair of vegetative leaves and the top is at the point of attachment of the lowermost inflorescence branch. If there is no internode between the most apical vegetative leaves and the lowermost inflorescence branch, the inflorescence is sessile.

Bremekamp's (1934) definition and discussion of peduncles are not followed here because they are more complicated and confusing (Manning, 1990).

Inflorescence delimitation. Whether a branch floriferous twiglet just below the flower cluster terminating a major floriferous twiglet is interpreted as bearing a separate inflorescence or as a branch of a single terminal inflorescence depends on whether the branch has leaves subtending the flower cluster. If so, it bears a separate inflorescence. If not, it is a branch of a single terminal inflorescence. Subtending "leaves" may be considered foliar bracts and the branch a part of a single terminal inflorescence if the "leaves" are reduced more than half in length compared to mature leaves on the main floriferous twiglet just below the inflorescence, or if they are no larger than any foliar

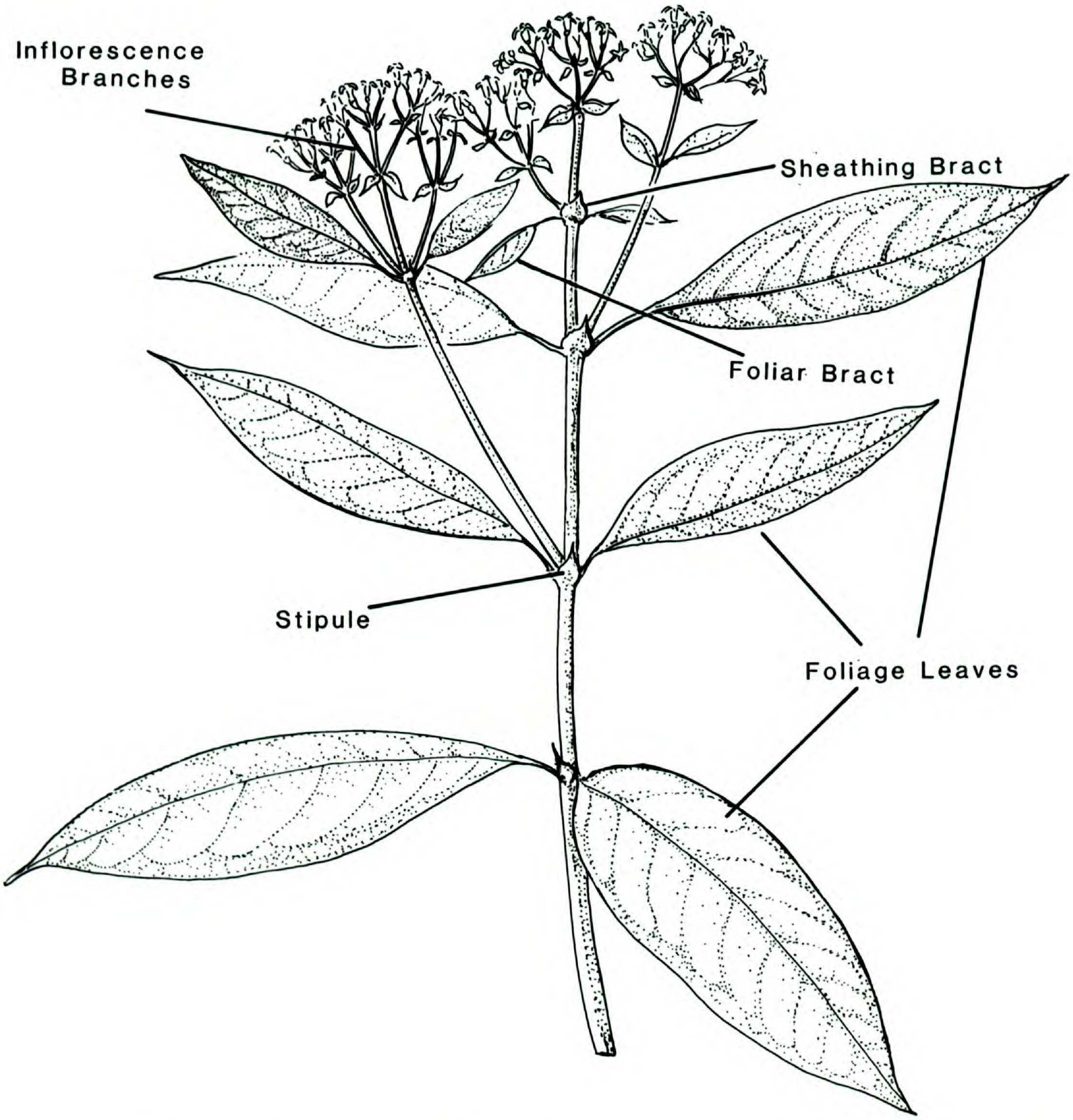


Figure 3. Distinctions between foliage leaves, foliar bracts, stipules, and sheathing bracts in *Pavetta* subg. *Baconia*.

bracts on the main floriferous twiglet rachis, or if they have fallen off and left scars clearly smaller than leaf scars.

The above distinction between solitary and separate inflorescences is only occasionally difficult in practice.

Flowers

Flowers are almost always 4-merous in all species, though occasional 5-merous flowers occur.

Calyx. Calyx tubes in subgenus *Baconia* are often 1–2 mm long. Calyx lobe shape and size are important distinguishing characters, despite variation in most species. Calyx lobes are up to 4 mm long. Typical shapes are illustrated in Figure 5. Although one or two of these shapes predominate in most species, several shapes routinely occur as less common variants.

Calyx lobes in subgenus *Baconia* are usually valvate in open flowers, but often overlapping at the base in bud. Some (never all) lobes remain slightly overlapping at the base in mature flowers in several species. This is used diagnostically for the few species in which it occurs in more than 10% of mature flower calyx lobes.

Corolla. In Cameroon, corollas are usually

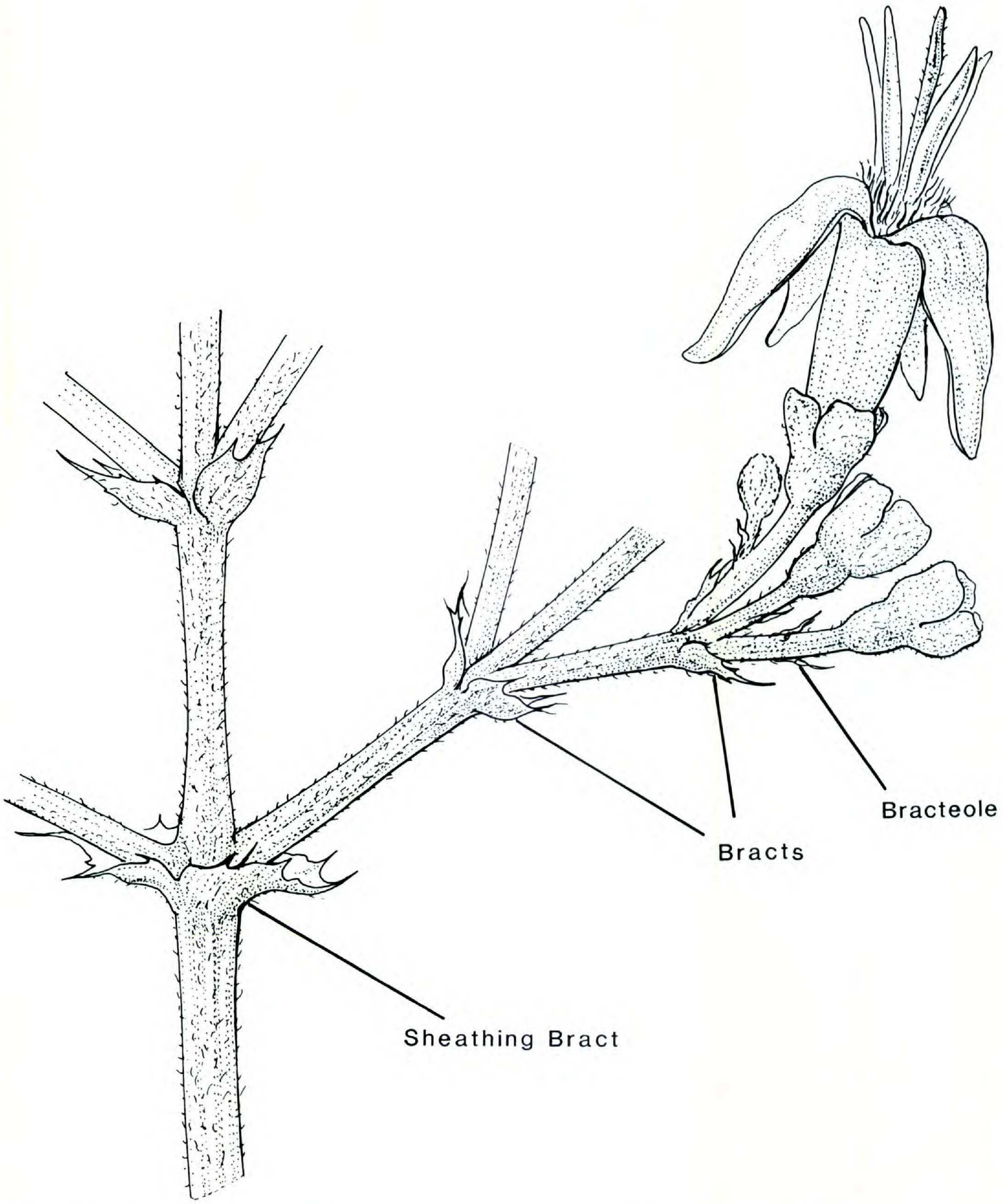


Figure 4. Variation in nonfoliar bracts and bracteoles in *Pavetta* subg. *Baconia*, showing fimbriae.

white, less often greenish white, cream-white, cream, pale green, greenish yellow, yellow, brick red, or with green tips, margins, or stripes.

Corolla exteriors are glabrous; interiors are usually glabrous or subglabrous except the beard of hairs around the corolla throat, attached within the tube near the top. In a few species the beard normally extends unbroken onto the proximal part of the upper surface of the corolla lobes or down into the upper part of the inside of the tube. Rarely, small amounts of shorter vestiture, sharply delimited from the corolla throat beard, also occur on upper surfaces of corolla lobes. In some species, the beard projects outward from the corolla throat.

Members of subgenera *Dizygoön* and *Pavetta* sometimes bear arachnoid vestiture inside upper

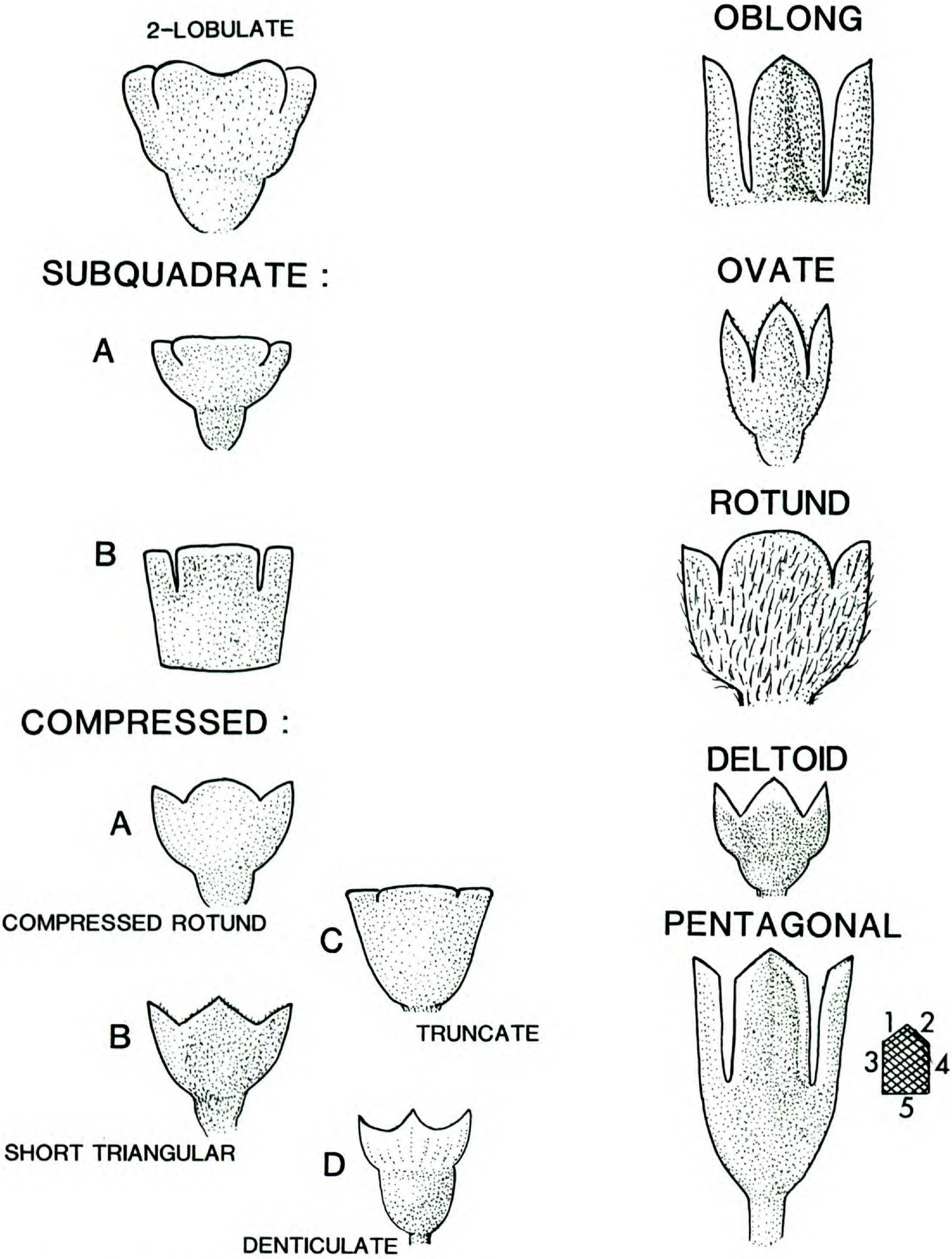


Figure 5. Calyx lobe shapes in *Pavetta* subg. *Baconia*.

parts of corolla tubes. Such vestiture is distinguishable from that of subgenus *Baconia* in at least one of the following three ways: (1) it extends further down into the tube and does not form a distinct ring, (2) it is less dense, or (3) the hairs are finer, shorter, or more curved than the typically bristly hairs of subgenus *Baconia* corolla throats. Corolla throat beards similar to those typical of subgenus

Baconia also occur in some other Rubiaceae, such as the African *Morelia senegalensis* A. Rich. ex DC. and the South American *Isertia coccinea* Vahl.

Corolla tubes vary from cylindrical to twice or more as wide at the top as at the base. A constriction of the tube often occurs just above its base marking a position just above the epigynous nectary disc. Corolla tube length can often be used in distinguishing species despite intraspecific variation. Corolla tubes are normally as short as 2 mm in some species and as long as 10 mm in others. Average corolla tube length in subgenus *Baconia* is about 5 mm, shorter than in subgenus *Pavetta*. The range of variation between longest and shortest tubes in open flowers of most species is about 2 mm. Intraspecific variation seen in this character ranges up to 7 mm; in well collected species whose ranges of variation are probably best represented, longest tubes of open flowers are about twice as long as shortest ones. Corolla tubes are often 1–2 mm wide.

Androecium

a. Stamens. Anthers are introrse, subbasifixed, usually sublinear, and dehisce along longitudinal slits, usually when flowers are in bud. The four stamens are attached to corolla tubes near their throats, alternating with the corolla lobes. When flowers open, anthers become exserted and usually hang down between corolla lobes, sometimes coiling when dry.

b. Pollen. Pollen is tricolporate, globose to subglobose, and typically from 10 to 25 μm in diameter. This is usual in Rubiaceae and tribe Pavetteae (Robbrecht, 1988). Although pollen is usually in monads, tetrads were observed in *Pavetta staudtii* Hutch. & Dalziel (*Zenker 4913*, MO).

Gynoecium

a. Ovary. The inferior ovaries vary from glabrous to pubescent. Vestiture on ovaries is similar to that of inflorescences bearing them until it thins as fruits increase in size. Inside the base of the corolla tube is an epigynous, annular or subannular nectary disc. Structural details are discussed below under "Fruits and Seeds."

b. Style-pollen presenter. Each ovary bears a single, apical style swollen toward its apex. The swollen part is the pollen presenter. Style-pollen presenters range from most often clavate to less often fusiform, and from glabrous to pubescent, sometimes within species. Hairs on pollen presenters are usually suberect, borne nearly perpendicularly from the surface but curved near the apex, and sometimes as long as 0.5 mm. Some species' pollen presenters have clear vertical ridges.

The part of the style below the pollen presenter is normally glabrous in almost all species.

Distances that styles are exserted beyond corolla tubes vary considerably and can be diagnostic at the species level. In some species, styles are exserted over 15 mm; in others, only 3 mm; in most, intermediate distances.

c. Stigma. Stigmas in most species are slightly bifurcated at the tip. They never become recurved as in *Ixora*, however.

Fruits and Seeds

Fruits. Fruits in subgenus *Baconia* are subglobose drupes. A shallow vertical depression around the outside often marks the fruit's division into two locules. Average fruit size ranges from about 5 mm in diameter in some species to about 10 mm in others. Fruits are most often white, off-white, or glaucous, but in some species are orange, orange-green, brown-green, yellow-green, dull yellow, pink, black, bluish black, or white with green vertical stripes; red ones have not been reported.

Fruits in *Pavetta* are divided into two locules by a vertical septum. In almost all species, each locule bears a single ovule from near the midpoint of the septum. Often, both ovules develop into seeds (Fig. 6A). However, sometimes only one of the ovules develops into a seed. This has been observed in over half of species from Cameroon for which fruits are known. Absence of a shallow vertical depression around the fruit exterior often indicates that this has happened. In most such fruits, the septum is close to or against one side of the fruit, resulting in a vestigial locule on the other side of the septum from the developed seed (Fig. 6B).

In *Pavetta camerounensis*, although most fruits have only one ovule per locule as is typical of subgenus *Baconia*, one fruit was seen in which one locule has two seeds borne side by side from a single fleshy placenta whose attachment is near the middle of the septum, while there is only one seed in the other locule (Fig. 6C). This situation occurs more often in *P. lasioclada* (K. Krause) Mildbraed ex Bremekamp, in which it is also common for each of the two locules to bear two seeds (Fig. 6D).

Placentae have been observed to be attached more than halfway up the septum, but never apically, in a few species.

Seeds. Mature seeds occupy most of the volume of their locules. They are nearly hemispherical, except the adaxial side is concave at maturity, with the concavity situated where the placenta was formerly attached. The concavity is typically surrounded by a ringlike outgrowth of testa tissue.

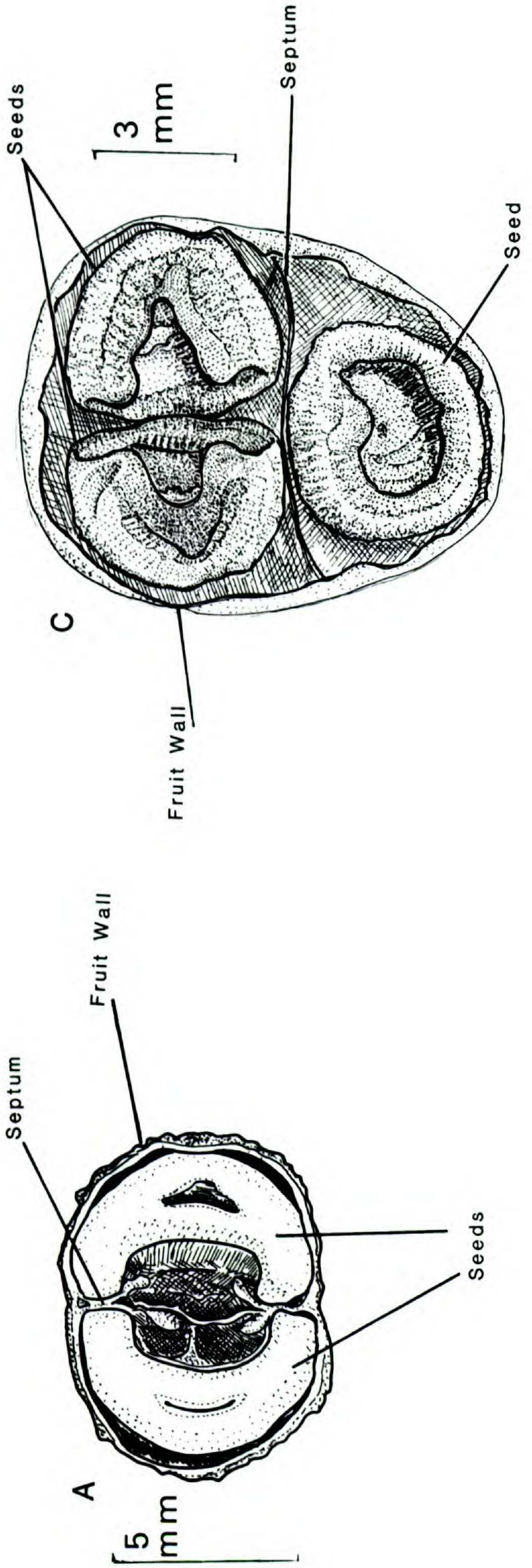


Figure 6. Fruits and seeds of *Pavetta* subg. *Baconia*.—A. Equatorial cross section of fruit of *P. neurocarpa* (*Manning 1035*, MO).—B. Equatorial cross section of fruit of *P. tenuissima*; only one seed developed (*Raymal & Raymal 10148*, P).—C. Adaxial views of seeds from an atypical fruit of *P. camerounensis* subsp. *camerounensis* (*de Wilde et al. 3801*, WAG). Two smaller seeds in one locule, one larger seed in the other locule (placentas removed).—D. Transverse section of fruit of *P. lasioclada* (*Letouzey 2551*, BR). Two seeds in each locule (placentas removed).

Seeds that are less than full sized also occur fairly often in full-sized fruits, however. Rarely, parthenocarpy occurs.

The seeds in four-seeded fruits of *Pavetta lasioclada* (Fig. 6D) are similar to others in the subgenus in basic structure, although constrained to fit within fruits very similar to the two-seeded ones in other species of the subgenus.

Habitat

More species in subgenus *Baconia* have been found in wet forest than in drier forested areas, and more occur in drier forested areas than in savanna. Even in savanna areas, collections are often from gallery forest rather than open savanna.

Reproductive Strategy

Flowers are protandrous. The introrse anthers usually shed pollen onto the swollen upper part of the style (pollen presenter) while the flower is in bud. The pollen presenter becomes exserted as the corolla opens. Pollen adheres to it and is ready for insects to transfer it to receptive stigmas. This pollination syndrome is typical of tribe Pavetteae (Robbrecht, 1984, 1988) and subfamily Ixoroideae (Bremekamp, 1966; Robbrecht, 1988).

March is the peak flowering month for subgenus *Baconia* species in Cameroon. Sixteen of 29 species, and 20 of 38 taxa, including infraspecific taxa, have been collected in open flower in March. This peak flowering is near the beginning of the main rainy season. There have been no flowering collections during September and October, toward the end of the rainy season in much of the forested area, and few during July and August. This cannot completely be accounted for by infrequency of collecting efforts during this wet period; fruits have been collected during every month of the year.

The species with the highest altitudinal range, *Pavetta hookeriana* Hiern, has been collected in flower during more months (August and December as well as February through June) than any other species. It is the most widespread montane species.

Mature fruits of ten species of subgenus *Baconia*. have been collected in Cameroon during November, and those of nine species in December. This peak period for ripe fruits is in the dry season in most parts of the country. In contrast, during the wet month of August, only one species of subgenus *Baconia* has been collected in mature fruit in Cameroon. Intermediate numbers of species have been collected in mature fruit during other months. The spread of fruiting seasons throughout the year is in spite of fewer total species-months being represented in fruiting collections than in flowering collections and no single species having been collected in ripe fruit in more than six months of the year.

Taxonomic Treatment

Taxa in subgenus *Baconia* are morphologically relatively similar and are difficult to separate. Subgenus *Baconia* taxa outside Cameroon show similar amounts and patterns of morphological variation to those in Cameroon. Since species of subgenus *Baconia* are often similar in many characters, one might ask why the whole group or much of it should not be considered a "species complex" as found, for example, by Seyani (1988) in *Dombeya burgessiae* Gerr. ex Harv. & Sond. (Sterculiaceae). This is not done because good correlation of morphology with geographical location has been found in subgenus *Baconia*, while in the *D. burgessiae* complex there was poor correlation of morphology with geography.

Key to Species of *Pavetta* Subg. *Baconia* in Cameroon Based on Characters when Flowering

1. Bacterial nodules on leaves more conspicuous below than above; corollas brick red to beige tan ..... 28. *P. urophylla*
1. Bacterial nodules on leaves more conspicuous above than below, or absent; corollas white, cream, green or yellow 2
2(1). Ovules 2 in both locules of ovary or 2 in one locule, 1 in the other; at least some leaf tertiary veins prominent or prominulous below ..... 14. *P. lasioclada*
2. Ovule 1 per locule; some leaf tertiary veins prominent or prominulous below or not 3
3(2). Some leaf tertiary veins connecting adjacent secondary veins to form a subrectangular gridlike pattern conspicuous below to the naked eye (Figs. 18, 19, 23), leaves without numerous conspicuous light-colored tertiary veins borne from midrib perpendicularly 4
3. Leaf tertiary veins not forming a subrectangular gridlike pattern with secondary veins conspicuous to the naked eye unless tertiary venation also includes numerous conspicuous light-colored veins borne from midrib perpendicularly 6
4(3). Some nonfoliar bracts fimbriate as in Figure 4; inflorescences ca. 6–11 cm across; adaxial surfaces of corolla lobes not pubescent near throat; corolla tubes 5–7 mm long, corolla lobes 6–7 mm long ..... 21. *P. namatae*

4. Most or all nonfoliar bracts lacking fimbriae; inflorescences ca. 0.5–4 cm across; adaxial surfaces of some or all corolla lobes pubescent near throat; corolla tubes 2–5 mm long, corolla lobes 2–6 mm long 5
5(4). Inflorescences ± lax, not subumbellate, (1–)2–4 cm across; average ca. 5–6 veins or veinlets crossed per mm of leaf blade; longest leaf blades ≤18 cm; corolla tubes 3–5 mm long, corolla lobes 4–6 mm long ..... 20. *P. muiriana*
5. Inflorescences congested, subumbellate or with subumbellate subunits, 0.5–2 cm across; average ca. 7 veins or veinlets crossed per mm of leaf blade; longest leaf blades ≥19 cm; corolla tubes 2–3 mm long, corolla lobes 2–4 mm long ..... 27. *P. tenuissima*
6(3). Inflorescences glabrous throughout (or rarely partly subglabrous); nonfoliar bracts almost all lacking fimbriae 7
6. At least part of inflorescences puberulent or pubescent or, if inflorescences glabrous or subglabrous throughout, nonfoliar bracts fimbriate as in Figure 4 8
7(6). Sheathing bracts covering inflorescence branches for most of their lengths (Fig. 13), most sheathing bracts drying light green; inflorescences congested, subumbellate or of tightly clustered subumbellate subunits ..... 12. *P. kribiensis*
7. Sheathing bracts not covering inflorescence branches for most of their lengths, most sheathing bracts drying black or brown; inflorescences congested and subumbellate or not ..... 22. *P. neurocarpa*
8(6). Leaf blades pubescent to subglabrous above (at least a few hairs scattered over the whole upper surface) 9
8. At least part of some or all leaf blades on each specimen glabrous above 11
9(8). Fourth and higher order leaf venation above not obscure when illuminated at 10× ..... 16. *P. longibrachiata*
9. Fourth and higher order leaf venation above obscure when illuminated at 10× 10
10(9). Flowers with corolla lobes longer than corolla tubes; most calyx lobes ovate (Fig. 5), their tips pointed or nearly so; largest leaf blades (11.5–)14.5–22 × 4.5–9 cm; styles exserted 9–11 mm; floriferous twiglets 5.5–19.5 cm long ..... 19. *P. mpomii*
10. Most flowers with corolla lobes shorter than corolla tubes; most calyx lobes subquadrate (Fig. 5) to obovate, their tips not pointed; largest leaf blades (16.5–)21–34 × 8.5–15.5 cm; styles exserted 12–18 mm; floriferous twiglets (6–)18–29 cm long ..... 29. *P. viridiloba*
11(8). Anthers septate ..... 7. *P. cellulosa*
11. Anthers not septate 12
12(11). Leaf apices obtuse to rounded, not acute, most leaf blades oblanceolate or strongly obovate; corolla lobe average length 10–13 mm; average style exsertion 17–23 mm 13
12. Some or most leaf apices acute, most leaf blades elliptical or other shapes but most neither oblanceolate nor strongly obovate; corolla lobe average length ≤9 mm; average style exsertion ≤12 mm 14
13(12). Most calyx lobes short triangular to compressed rotund (Fig. 5), 0.1–1 mm long; corolla lobe average length 10 mm, range 8–13; average style exsertion 17 mm, range 11–20 ..... 13. *P. kupensis*
13. Most calyx lobes deltoid to rotund or pentagonal, not compressed (Fig. 5), 1.5–3 mm long; corolla lobe average length 13 mm, range (9–)12–14; average style exsertion 23 mm, range 20–30 ..... 17. *P. longistyla*
14(12). At least some upper leaf blade surfaces on each specimen appearing dotted when illuminated at 10×, owing to minute papillae 15
14. Upper leaf blade surfaces not appearing dotted or papillate when illuminated at 10× 17
15(14). Corolla tubes (2–)3–8 mm long, corolla lobes (3–)5–9 mm long, styles exserted (2–)6–10 mm ..... 16. *P. longibrachiata*
15. Corolla tubes 1–3 mm long, corolla lobes 2–4 mm long, styles exserted 2–4 mm 16
16(15). Inflorescences congested with ca. 40 flowers per cm of inflorescence width; average corolla tube length 1.5 mm ..... 4. *P. brachysiphon*
16. Inflorescences lax with ca. 10 flowers per cm of inflorescence width; average corolla tube length 3 mm ..... 15. *P. laxa*
17(14). A few hairs scattered over the whole upper leaf blade surface ..... 16. *P. longibrachiata*
17. At least part of some or all leaf blades on each specimen glabrous above 18
18(17). Most calyx lobes subquadrate (Fig. 5) 19
18. Most calyx lobes of shapes other than subquadrate (Fig. 5) 21
19(18). Calyx lobes puberulent externally; nodules, if present, at least as conspicuous on midrib as elsewhere ..... 5. *P. calothyrsa*
19. Calyx lobes glabrous or subglabrous externally; nodules, if present, more conspicuous elsewhere than along midrib 20
20(19). Under 10% of calyx lobe bases overlapping after flowers open, fourth and higher order venation obscure above on most leaves when illuminated at 10×, inflorescences 1–6(–8) cm across with (10–)20–100(–200) flowers ..... 26. *P. staudtii*
20. Over 10% of calyx lobe bases overlapping after flowers open, fourth and higher order venation not obscure above when illuminated at 10× except on some of the largest leaves, inflorescences (4–)7–14 cm across with (75–)100–400 flowers ..... 24. *P. robusta*
21(18). Average calyx lobe length <1 mm 22
21. Average calyx lobe length >1 mm 28
22(21). Average ca. 2 veins or veinlets crossed per mm of leaf blade as seen illuminated at 10× ..... 10. *P. grossissima*
22. Average (3–)4–6 veins or veinlets crossed per mm of leaf blade as seen illuminated at 10× 23
23(22). Longest leaf blades >10 cm including acumen; widest inflorescences always ≥1 cm across 24

23. Longest leaf blades ≤10 cm including acumen; widest inflorescences not always ≥1 cm across ..... 1. *P. baconiella*
24(23). Some inflorescences subcapitate or subumbellate; some or all leaves with >10 pairs of secondary veins ..... 6. *P. camerounensis*
24. Inflorescences not subcapitate; if subumbellate (*P. gabonica*), all leaves with ≤10 pairs of secondary veins 25
25(24). Most calyx lobes subdeltoid to subrotund, not compressed (Fig. 5), their average length 0.75 mm, only occasionally as short as 0.5 mm 26
25. Most calyx lobes compressed (Fig. 5), their average length ≤0.5 mm, only occasionally as long as 0.75 mm 27
26(25). Longest stipule awns ≥5 mm long ..... 2. *P. bidentata*
26. Longest stipule awns <5 mm long ..... 9. *P. gabonica*
27(25). Leaves maroon, stipules glabrous or subglabrous internally, inflorescences 0.5–1.5 cm across ..... 25. *P. rubentifolia*
27. Leaves green, stipules pubescent internally, inflorescences 1–5(–8) cm across ..... 3. *P. brachycalyx*
28(21). Average corolla tube length 3–4 mm, average style exsertion 6 mm 29
28. Average corolla tube length ≥5 mm, average style exsertion ≥8.5 mm 30
29(28). Either most fourth and higher order leaf venation subobscure below when illuminated at 10× or veins intermittently pubescent below as in Figure 12; leaves coriaceous to subcoriaceous ..... 11. *P. hookeriana*
29. Fourth and higher order leaf venation conspicuous below when illuminated at 10×, veins not intermittently pubescent below as in Figure 12; leaves chartaceous to subcoriaceous ..... 16. *P. longibrachiata*
30(28). Over 10% of calyx lobe bases overlapping after flowers open, average calyx lobe length 1.7–2 mm 31
30. Under 10% of calyx lobe bases overlapping after flowers open, average calyx lobe length 1–1.5 mm 32
31(30). Average style exsertion 8.5 mm, range (5–)8–9(–12); nodules absent; veins glabrous below ..... 18. *P. molundensis*
31. Average style exsertion 11 mm, range 9–14; nodules present; veins subglabrous to pubescent below ..... 8. *P. corymbosa*
32(30). Fourth and higher order leaf venation clearly visible above when illuminated at 10× 33
32. Fourth and higher order leaf venation not clearly visible above when illuminated at 10× 35
33(32). Domatia absent along secondary veins below ..... 23. *P. owariensis*
33. Domatia present along secondary veins below 34
34(33). Average ca. 3 veins or veinlets crossed per mm of leaf blade ..... 23. *P. owariensis*
34. Average ca. 4–5 veins or veinlets crossed per mm of leaf blade ..... 16. *P. longibrachiata*
35(32). Fourth and higher order leaf venation obscure or invisible below when illuminated at 10× ..... 23. *P. owariensis*
35. Fourth and higher order leaf venation clearly visible below when illuminated at 10× 36
36(35). Domatia absent along secondary veins below ..... 23. *P. owariensis*
36. Domatia present along secondary veins below ..... 16. *P. longibrachiata*

KEY TO SPECIES OF *PAVETTA* SUBG. *BACONIA* IN CAMEROON BASED ON CHARACTERS WHEN FRUITING (CALYX CHARACTERS INCLUDED)

1. Bacterial nodules on leaves more conspicuous below than above ..... 28. *P. urophylla*
1. Bacterial nodules on leaves more conspicuous above than below, or absent 2
2(1). Seeds 2 in both locules of fruit or 2 in one locule, 1 in the other; at least some leaf tertiary veins prominent or prominulous below ..... 14. *P. lasioclada*
2. Seed 1 per locule; leaf tertiary veins prominent or not below 3
3(2). Some leaf tertiary veins connecting adjacent secondary veins to form a subrectangular gridlike pattern conspicuous below to the naked eye (Figs. 18, 19, 23), leaves without numerous conspicuous light-colored tertiary veins borne from midrib perpendicularly 4
3. Leaf tertiary veins not forming a subrectangular gridlike pattern with secondary veins conspicuous to the naked eye unless tertiary venation also includes numerous conspicuous light-colored veins borne from midrib perpendicularly 6
4(3). Some nonfoliar bracts fimbriate as in Figure 4; infructescences ca. 6–11 cm across ..... 21. *P. namatae*
4. Most nonfoliar bracts lacking fimbriae; infructescences ca. 0.5–4 cm across 5
5(4). Average ca. 5–6 veins or veinlets crossed per mm of leaf blade; infructescences not subumbellate or congested, (1–)2–4 cm across; longest leaf blades ≤18 cm ..... 20. *P. muiriana*
5. Average ca. 7 veins or veinlets crossed per mm of leaf blade; infructescences subumbellate or with subumbellate subunits, congested, 0.5–2 cm across; longest leaf blades ≥19 cm ..... 27. *P. tenuissima*
6(3). Infructescences glabrous throughout (or rarely partly subglabrous); nonfoliar bracts almost all lacking fimbriae 7
6. At least part of infructescences puberulent or pubescent or, if infructescences glabrous or subglabrous throughout, nonfoliar bracts fimbriate as in Figure 4 8
7(6). Sheathing bracts covering infructescence branches for most of their lengths (Fig. 13), most sheathing bracts drying light green; infructescences congested, subumbellate or of tightly clustered subumbellate subunits ..... 12. *P. kribiensis*
7. Sheathing bracts not covering infructescence branches for most of their lengths, most sheathing bracts drying black or brown; infructescences congested and subumbellate or not ..... 22. *P. neurocarpa*

8(6). Leaf blades pubescent to subglabrous above (at least a few hairs scattered over the whole upper surface) 9
8. At least part of some or all leaf blades on each specimen glabrous above 11
9(8). Fourth and higher order leaf venation not obscure above when illuminated at 10× ..... 16. *P. longibrachiata*
9. Fourth and higher order leaf venation obscure above when illuminated at 10× 10
10(9). Most calyx lobes ovate (Fig. 5), their tips pointed or nearly so; largest leaf blades (11.5–)14.5–22 × 4.5–9 cm; floriferous twiglets 5.5–19.5 cm long ..... 19. *P. mpomii*
10. Most calyx lobes subquadrate (Fig. 5) to obovate, their tips not pointed; largest leaf blades (16.5–)21–34 × 8.5–15.5 cm; floriferous twiglets (6–)18–29 cm long ..... 29. *P. viridiloba*
11(8). Leaf apices obtuse to rounded, not acute; most leaf blades oblanceolate or strongly obovate 12
11. Some or most leaf apices acute; most leaf blades elliptical or other shapes but neither oblanceolate nor strongly obovate 13
12(11). Most calyx lobes short triangular to compressed rotund (Fig. 5), 0.1–1 mm long; domatia present along midrib and sometimes in external angles of two connecting secondary veins of at least larger leaves below; infructescences 2–9 cm across ..... 13. *P. kupensis*
12. Most calyx lobes deltoid to rotund or pentagonal, not compressed (Fig. 5), 1.5–3 mm long; domatia absent; infructescences 9–13 cm across ..... 17. *P. longistyla*
13(11). Mature fruits crowned by persistent calyces most lobes of which are ≥2 mm long 14
13. Mature fruits not crowned by persistent calyces, or persistent calyx lobes <2 mm long 15
14(13). Most calyx lobes subquadrate (Fig. 5) ..... 5. *P. calothyrsa*
14. Most calyx lobes not subquadrate but rather ovate, subrotund or rotund (Fig. 5) ..... 23. *P. owariensis*
15(13). Longest stipule awns >5 mm long; leaves with nodules conspicuous along midrib ..... 2. *P. bidentata*
15. Longest stipule awns ≤5 mm long; leaves with nodules conspicuous along midrib or not—usually not except in *P. hookeriana*, which is variable in this respect 16
16(15). At least some upper leaf blade surfaces on each specimen appearing dotted when illuminated at 10×, owing to minute papillae 17
16. Upper leaf blade surfaces not appearing dotted or papillate when illuminated at 10× 19
17(16). Infructescences congested, ca. 1–3 cm across; calyx lobes longer than wide, their average length ca. 1.0 mm ..... 4. *P. brachysiphon*
17. Infructescences not congested, ca. 0.5–9 cm across; width of calyx lobes subequal to length, their average length 1.1–1.3 mm 18
18(17). Infructescences lax, average length of calyx lobes 1.3 mm ..... 15. *P. laxa*
18. Infructescences neither lax nor congested, average length of calyx lobes 1.1 mm ..... 16. *P. longibrachiata*
19(16). A few hairs scattered over the whole upper leaf blade surface ..... 16. *P. longibrachiata*
19. At least part of some or all leaf blades on each specimen glabrous above 20
20(19). Average ca. 2 veins or veinlets crossed per mm of leaf blade surface as seen illuminated at 10×, mature fruits orange ..... 10. *P. grossissima*
20. Average (3–)4–6 veins or veinlets crossed per mm of leaf blade surface as seen illuminated at 10×, mature fruits orange or not—usually other colors (black, blue, gray, or whitish) in species for which mature fruits are known except in *P. gabonica*, in which they are orange, yellow, or brownish 21
21(20). Leaves maroon, stipules glabrous or subglabrous internally, infructescences ca. 0.5–1.5 cm across ..... 25. *P. rubentifolia*
21. Leaves green, stipules glabrous or subglabrous or not internally, infructescences as narrow as 0.5–1.5 cm or wider 22
22(21). Some infructescences subcapitate or subumbellate; some leaf blades larger than 10 × 2.5 cm including acumen and some or all leaves with >10 pairs of secondary veins ..... 6. *P. camerounensis*
22. Infructescences not subcapitate, in most species not subumbellate either; if subumbellate, either largest leaf blades no larger than 10 × 2.5 cm including acumen or all leaf blades with ≤10 pairs of secondary veins 23
23(22). Fourth and higher order leaf venation not obscure above when illuminated at 10×, or obscure above only on some of the largest leaves 24
23. Fourth and higher order leaf venation obscure above when illuminated at 10× 34
24(23). Average ca. 3 veins or veinlets crossed per mm of leaf blade, fourth and higher order leaf venation easily visible below when illuminated at 10× 25
24. Average ca. 4–6 veins or veinlets crossed per mm of leaf blade, fourth and higher order leaf venation easily visible below or not when illuminated at 10× 26
25(24). Leaf blades not larger than 10 × 2.5 cm including acumen ..... 1. *P. baconiella*
25. Largest leaf blades larger than 10 × 2.5 cm including acumen ..... 23. *P. owariensis*
26(24). Mature fruits orange, yellow, or brownish if known; fourth and higher order leaf venation only moderately easily visible below when illuminated at 10× 27
26. Mature fruits gray, blue-gray, blue-green, whitish green, or blackish if known; fourth and higher order leaf venation easily visible or moderately easily visible below when illuminated at 10× 29
27(26). Hairy pit or pocket domatia up to several mm long along secondary veins of most leaves ..... 7. *P. cellulosa*
27. Domatia not along secondary veins of most leaves 28
28(27). Most calyx lobes deltoid or subdeltoid (Fig. 5), their average length 0.75 mm, only occasionally as short as 0.5 mm; mature fruits orange, dull yellow, or brownish; plants widely distributed but so far not found on Mt. Cameroon ..... 9. *P. gabonica*

28. Most calyx lobes more compressed (Fig. 5) than deltoid, their average length ≤0.5 mm, only occasionally as long as 0.75 mm; fruit color unknown; plants so far found only on Mt. Cameroon ..... 3. *P. brachycalyx*
29(26). Fourth and higher order leaf venation easily visible below when illuminated at 10× 30
29. Fourth and higher order leaf venation visible but only moderately so or subobscure below when illuminated at 10× 33
30(29). Domatia present along secondary veins of most leaves below 31
30. Domatia absent or only occasionally present along leaf secondary veins below 32
31(30). Fourth and higher order leaf venation more conspicuous above than below ..... 7. *P. cellulosa*
31. Fourth and higher order leaf venation not more conspicuous above than below ..... 16. *P. longibrachiata*
32(30). Most calyx lobes subquadrate (Fig. 5), nodules scattered on leaf blades, fruits unknown ..... 24. *P. robusta*
32. Calyx lobes various, most commonly rotund, most not subquadrate; nodules absent, mature fruits blue-gray or whitish ..... 18. *P. molundensis*
33(29). Nodules scattered on leaf blades ..... 7. *P. cellulosa*
33. Nodules absent or mostly along midrib ..... 11. *P. hookeriana*
34(23). Fourth and higher order leaf venation easily visible below when illuminated at 10× 35
34. Fourth and higher order leaf venation not easily visible below when illuminated at 10× 37
35(34). Domatia present on secondary veins below as pubescent pits, pockets, or crypts, or veins below puberulent to pubescent ..... 8. *P. corymbosa*
35. Domatia not present on secondary veins below as pubescent pits, pockets, or crypts, veins below glabrous or subglabrous 36
36(35). Most nodules pustuliform, scattered on blade; most calyx lobes subquadrate (Fig. 5) ..... 26. *P. staudtii*
36. Most nodules elongate and associated with secondary or higher order veins; calyx lobes various, often ovate or rotund but most not subquadrate ..... 23. *P. owariensis*
37(34). Most nodules pustuliform, scattered on blade; most calyx lobes subquadrate (Fig. 5) ..... 26. *P. staudtii*
37. Most nodules not pustuliform; nodules absent or most elongate or associated with midrib or other veins; calyx lobes various but most not subquadrate ..... 23. *P. owariensis*

1. Pavetta baconiella Bremekamp, Repert. Spec. Nov. Regni Veg. 37: 73. 1934. TYPE: Cameroon. Between Monjala and Mole, *Mildbraed 8374* (holotype, B destroyed). NEOTYPE: Cameroon. Southwest Province: South Korup National Park, in rocks by Mana River, July 1983 (fl, fl bud & fr), *Thomas 2212* (neotype, MO; isoneotypes, K, P, WAG not seen, YA; 2 other isoneotypes at unknown locations [BR?, PRE?, G?] not seen). Figure 7.

Shrubs 0.8 m. Twiglets glabrous or subglabrous, floriferous twiglets 1–6 cm, 2(–4) of them sometimes growing sympodially to a total length of up to 9 cm, the more proximal inflorescence(s) then pseudoaxillary. Leaves chartaceous, sometimes slightly anisophyllous; blades ovate to elliptical (or less often oblong or obovate), 2–10 × 0.5–3 cm, glabrous except major veins subglabrous or puberulent above and below; apex acute, subacuminate or with acumen 5–15 × 2–3 mm, often curved; base cuneate to attenuate; midrib prominulous below toward base; secondary veins 5–12 each side, usually eucamptodromous, small hairy pit or crypt domatia sometimes in branch vein angles of midrib or secondary veins; nodules scattered on blade, sometimes along midrib, few to many; third and higher order venation ± equally obvious above and below; venation density coarse. Stipules deciduous, cup-shaped, pubescent internally, subglabrous externally, the linear awn to 2 mm. Inflorescences rotund to inverted pyramidal in outline, condensed and subumbellate, 0.2–1.5 cm across, puberulent, sessile, flowers 1–75; sheathing bracts saucer- to cup-shaped, subglabrous, sometimes with a linear awn ca. 3 mm; other bracts to 2 mm, ± ovate to obovate, sometimes with 1–several fimbriae ca. 1 mm; bracteoles ca. 0.5 mm long resembling fimbriae of smaller bracts occasionally borne directly on pedicels. Calyx tube 0.7–1 mm long, 1–1.5 mm wide halfway up; lobes valvate, rotund to deltoid, broadly triangular, subquadrate, pentagonal or ovate, 0.2–0.8 × 0.5–0.8 mm, puberulent, sometimes carinate, rim usually lighter. Corolla yellow; tube cylindrical, 2–3 × 1 mm; lobes 3–5.5 mm; style clavate, subglabrous to pubescent, exserted 3–4 mm. Fruits 5–10 mm across, glabrous or subglabrous. Mature seeds 2 or 1 attached ca. halfway up septum, concave.

Pavetta baconiella was first collected "between Monjala and Mole," Cameroon. This location is unknown. It is otherwise known only from the very high rainfall Korup National Park in Southwest Province, Cameroon. It was found growing in riverside rocks along the Mana River when the river level was probably higher than average.

Leaf size of *Pavetta baconiella* is the smallest of all Cameroon species of subgenus *Baconia*. Sympodial floriferous twiglet growth such as that on some branches of *P. baconiella* has not been seen elsewhere in the subgenus.

The neotype is the only known extant collection of *P. baconiella*.

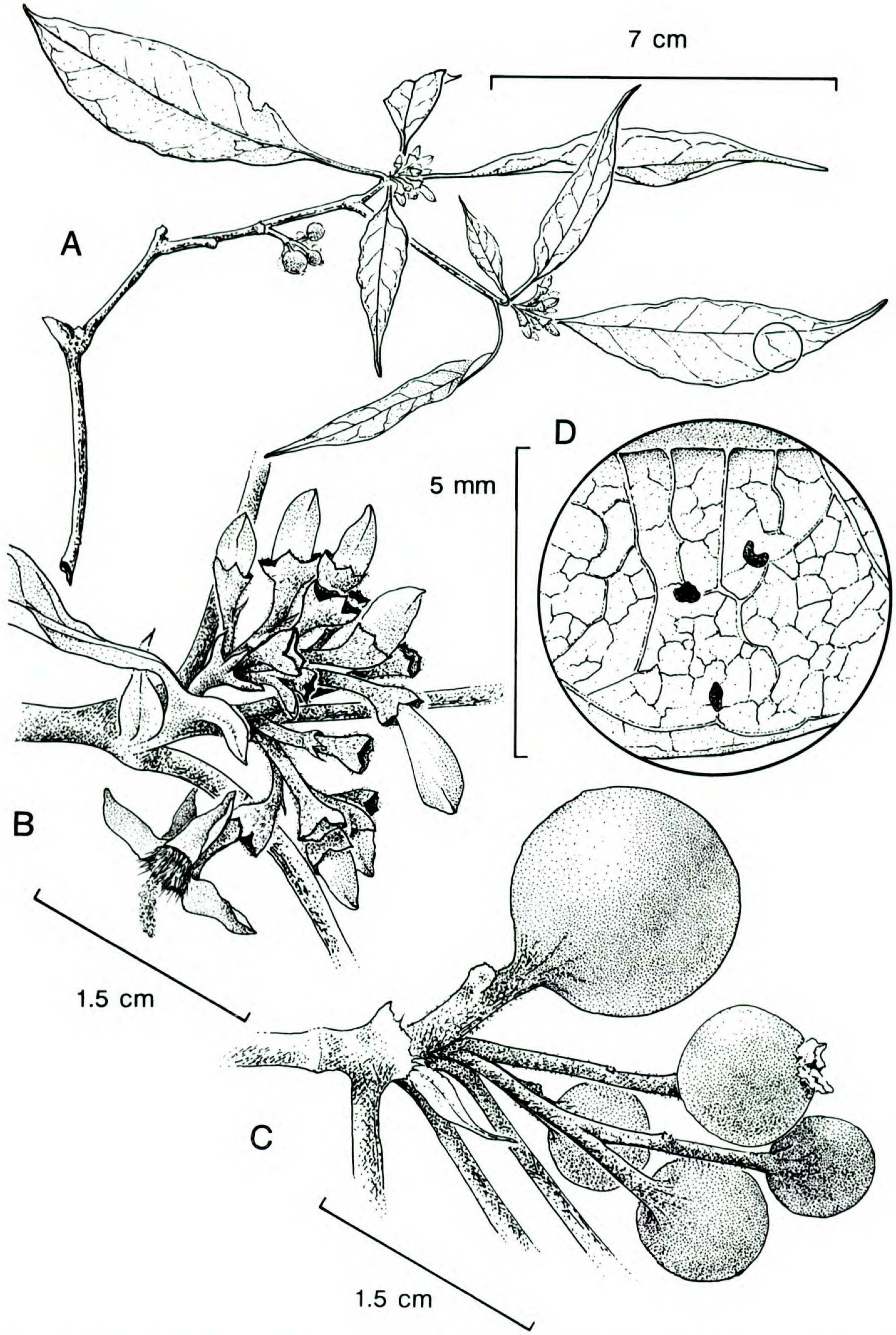


Figure 7. *Pavetta baconiella* (*Thomas 2212*, MO).—A. Habit.—B. Inflorescence.—C. Infructescence.—D. Details of leaf venation and three bacterial nodules on upper leaf surface.

2. Pavetta bidentata Hiern, Fl. Trop. Africa 3: 176. 1877. *Ixora bidentata* (Hiern) Kuntze, Revis. Gen. Pl. I: 286. 1891. TYPE: Equatorial Guinea. Bioko Island, formerly Fernando Po, Apr. 1860 (fl), *Mann 395* (holotype, K).

KEY TO THE VARIETIES OF *PAVETTA BIDENTATA* IN CAMEROON

1. Leaves sessile or subsessile; leaf bases rounded to cordate (or rarely attenuate), some pouched as in Figure 8 ..... var. *sessilifolia*
1. Leaves with petioles to 35 mm long, some always longer than 1 mm; leaf bases cuneate (to less often rounded or attenuate), not pouched ..... var. *bidentata*

a. Pavetta bidentata var. bidentata

Pavetta deistelii K. Schum., Bot. Jahrb. Syst. 33: 353–354. 1903. TYPE: Cameroon. Southwest Province: near Limbe, Jan. 1899 (fl), *Deistel 127* (holotype, B destroyed).

Pavetta permodesta Wernham, J. Bot. 54: 27. 1916. Syn. nov. TYPE: Cameroon. South Province: Bitye, Feb. (fl bud & fl), *Bates 716* (holotype, BM).

Pavetta longistipulata Bremek., Repert. Spec. Nov. Regni Veg. 37: 78. 1934. TYPE: Nigeria. Eket District, 1912–13 (fl), *Talbot & Talbot 3316* (holotype, BM).

Pavetta venusta Bremek., Repert. Spec. Nov. Regni Veg. 37: 78. 1934. Syn. nov. TYPE: Cameroon. Centre Province: Yaoundé, *Mildbraed 7978* (holotype, B destroyed).

Shrubs to 4 m. Twiglets glabrous or subglabrous, floriferous twiglets to 31 cm. Leaves petiolate, petioles to 35 mm; blades coriaceous to chartaceous, sometimes anisophyllous, elliptic to obovate, oblong or ovate, 2.5–31 × 0.7–10.5 cm, glabrous, at times subglabrous below near midrib, veins glabrous; apex acute (or rarely emarginate), sometimes with acumen 3–25 × 1–10 mm; base cuneate to attenuate (or rarely rounded), sometimes asymmetrical; midrib sometimes prominulous below near base; secondary veins 4–18(–22) each side, sometimes joined 1–10 mm from margin; pit, pocket, tuft, or intermediate between pit and crypt domatia usually in branch vein angles of midrib, occasionally in branch vein angles of secondary veins, pubescent, sometimes extending a few mm distally from branch vein angle; nodules usually elongated along midrib; if present on blade, often less frequent than along midrib, sometimes associated with veins; fourth and higher order venation usually more obvious below; venation density medium to fine. Stipules sometimes deciduous; lobes variable including ovate, rotund, compressed rotund, attenuate, deltoid, or pentagonal shapes, or truncate; glabrous; awn linear, 2–15 mm. Inflorescences pyramidal to rotund or corymb-shaped in outline or with subunits of these shapes, 1.5–16 cm across, sometimes lax, puberulent to glabrous, peduncle if present to 15 mm; flowers (1–)10–100(–250); sheathing bracts with rotund, ovate, deltoid, truncate or irregular lobes or unlobed, then funnel- or saucer-shaped, glabrous, at times subglabrous externally, most with narrow awns 0.5–10 mm long, upper ones sometimes with foliar appendages 1–6 mm long; foliar bracts absent or 10–20 mm long. Other bracts linear to pentagonal, ovate, subquadrate, spreading and semicircular, or obovate, to 4 mm long sometimes including 1–several fimbriae to 2 mm long, or fimbriae borne from axis directly; bracteoles resembling smaller bracts. Calyx tube 1–1.8 mm long, 1.5–2 mm wide halfway up; lobes valvate, triangular to rotund (or less often pentagonal, ovate, trapezoidal, subquadrate, compressed rotund (Fig. 5) or 2-pointed); (0.2–)0.5–1 × 0.7–2 mm, glabrous (to occasionally subglabrous), sometimes carinate; rim lighter colored. Corolla white; tube cylindrical or subcylindrical, 4–10 × 1–2 mm; lobes 5–10(–12) mm. Style fusiform to clavate, glabrous to puberulent, exserted 5–15 mm. Stigma narrowly 2-lobed. Fruits to ca. 1 cm across, sometimes with persistent calyx lobes, glabrous, pink or white with green stripes, then blackish. Mature seeds 2 or 1, attached ca. halfway or more up septum, concave.

Additional specimens examined. CAMEROON. **Southwest Province:** Limbe, Apr. (fl), *Maitland 1180* (B, K); Baro, near Korup National Park, Feb. (fl), *Nemba, Thomas & Mambo 889* (MO); Mbu, Rumpi Hills, 10 km W of Wone on Kumba–Mamfe road, Nov. (fl), *Mambo & Thomas 1* (MO), Oct. (fr), *Manning 627* (MO); Etam, Bakossi Forest Reserve, between Kumba and Tombel, Mar. (fl), *Etuge & Thomas 81* (MO) (not *81a*, which is *Pavetta rigida* Hiern); Bakossi Mountains W of Bangem, Jan. (fl), *Thomas & McLeod 5266* (BR, MO), Oct. (fr), *Etuge 335* (MO); Takamanda Forest Reserve, Apr. (fl), *Thomas et al. 7378* (MO). **Littoral Province:** between Njoke and Malende (possibly Southwest Province), Feb. (fl), *Schlechter 12872* (BR, K); 3 km E of Eboné, ca. 10 km S of Nkongsamba, Apr. (fl & vegetative), *Leeuwenberg & Berg 9694* (WAG, YA); and 8 km W of Masok, Apr. (fl), *Leeuwenberg 5414* (K, WAG in part, the other WAG sheet being *P. rigida* Hiern). **Centre Province:** Nkol Bisson, ca. 7 km W of Yaoundé, Jan. (fl bud), *de Wilde & de Wilde-Duyfjes 1689* (P, WAG), Apr. (fl bud & fl), *Breteler 2737* (K, P, WAG), Nov. (fr), *de Wilde & de Wilde-Duyfjes 1208* (P, WAG); hill Akondoi W of Etoug Ebé, Yaoundé, June (fr), *Manning 1916* (MO); Mt. Eloumden, ca. 10 km SW of Yaoundé, Mar. (fl bud), *Sonké 86* (MO), June (fl), *Manning 2123* (MO), June (fr), *Manning 2119* (MO) and *2122* (MO); W of Mt. Fébé, Yaoundé, July (fr), *Manning 2160* (MO); Ngoro, Massif de Ngolé below Banda, NE of Bafia, Apr. (fl), *Raynal & Raynal 10675* (P, YA). **South Province:** Campo Game Reserve, Mar. (fl bud), *Nkongmeneck 469* (BR); Bidjap, 32 km E of Nyabéssan, Mar. (fl bud & fl), *Raynal & Raynal 10283* (P, YA); Lolodorf (fl), *Staudt 212* (S); Bitye (fl bud), *Bates 1318* (MO), Feb. (fl bud & fl), *Bates 716* (BM), month unknown (fl bud & fl), *Bates 1203 & 1318*, combined sheet (BM); hill Ebon, near Nko-

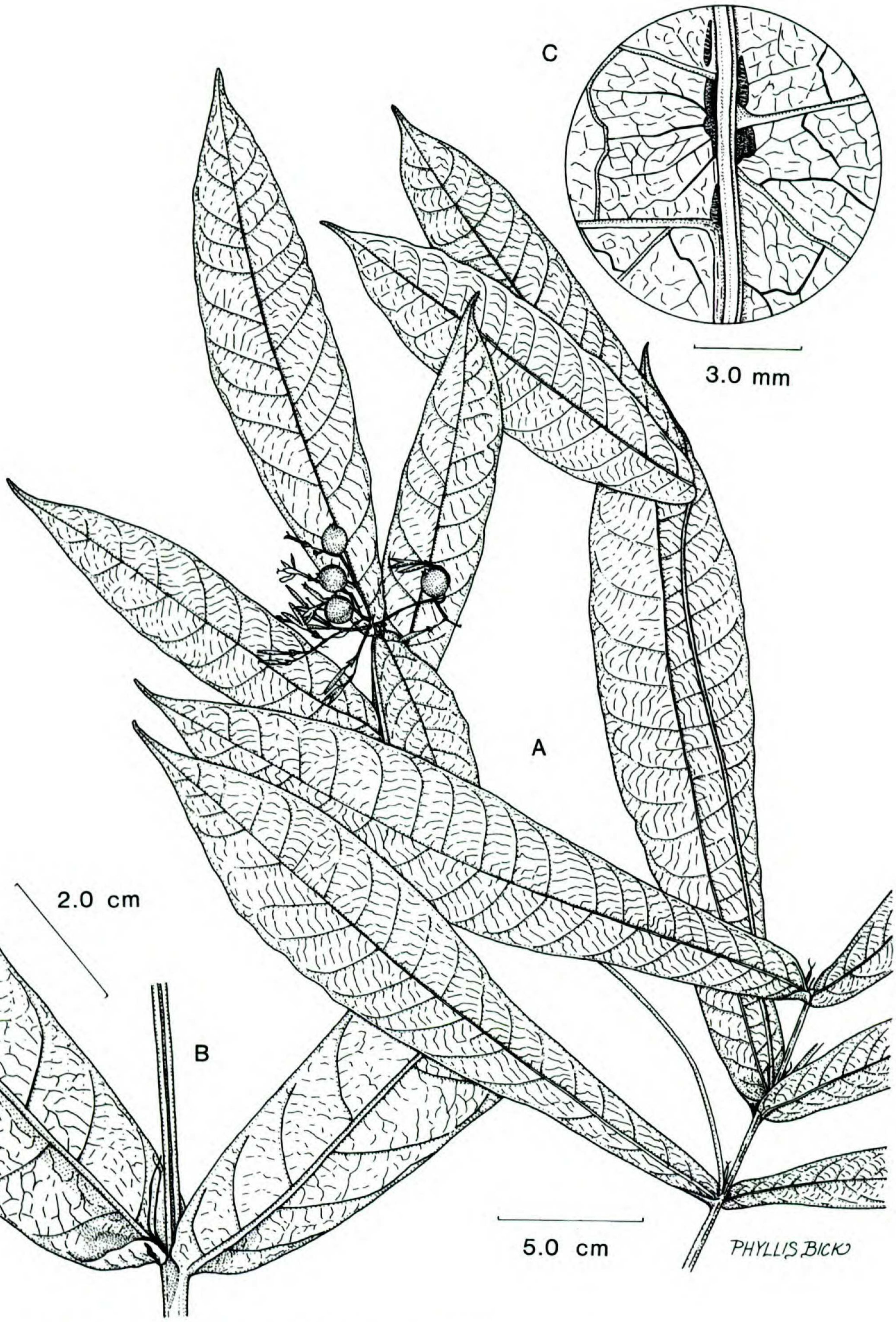


Figure 8. *Pavetta bidentata* var. *sessilifolia* (*Letouzey 11557*, P).—A. Habit, including flowers and fruits on the same inflorescence.—B. Node showing a pouched leaf base and long stipule awns.—C. Details of leaf venation with bacterial nodules along midrib.

biyo, 25 km ENE of Ambam, Mar. (fl bud & fl), *Letouzey 10187* (P). **Unknown Location:** collector unknown, labeled from Herbarium of the Victoria Botanic Gardens (fr), *SCA 2259, HNC 34595* (YA). NIGERIA. **Eket District:** (fl), *Talbot & Talbot 3316* (BM).

b. Pavetta bidentata var. **sessilifolia** S. D. Manning, var. nov. TYPE: Cameroon. Centre Province: hill Kombeng, 8 km SSE of Matomb, ca. 50 km WSW of Yaoundé, July 1972 (fl bud, fl & fr), *Letouzey 11557* (holotype, P; isotype, YA). Figure 8.

A varietate *bidentata* foliis laminis basi plerumque rotundatis ad cordatas, interdum saccatis, petiolis nullis vel ut maximum 1 mm differt.

Similar to variety *bidentata* except full-sized leaves sharply different in being sessile or with petioles ≤ 1 mm and having bases mostly rounded to cordate, sometimes pouched, and not cuneate.

Variety *sessilifolia* is placed within *Pavetta bidentata* because its collections resemble other collections of *P. bidentata* more than any other taxon of subgenus *Baconia*. It is given varietal status because of the sharp differences stated in the last paragraph.

Additional specimen examined. CAMEROON. **Centre Province:** Mt. Kala, 25 km W of Yaoundé, May (fl bud & fl), *Farron 7245* (P).

Pavetta bidentata var. *bidentata* occurs in Zaïre, Equatorial Guinea (Bioko Island), and Nigeria as well as Cameroon, and thus is centered in the Lower Guinean and Congolean subcentres of specific endemism sensu White (1979). In Cameroon, it is widely distributed in Southwest, South, Littoral, and Centre provinces. Variety *sessilifolia* is so far known only from a small area in southern Centre Province, Cameroon.

Pavetta bidentata has been found in primary and secondary forest and at elevations from sea level to as high as 1750 m. Plants collected on rocky or thin-soiled substrates, as well as higher elevation ones, tend to be smaller leaved than those of lowland substrates not reported as rocky.

Aids in recognizing this species are stipule awns usually longer than in other species, often longer than 10 mm; nodules more prevalent along the midrib than elsewhere on leaves; often elongated and pubescent domatia along the midrib; often narrower than average leaves for their length; and, apart from domatia and corolla throats, plants almost completely glabrous.

Several specimens of variety *bidentata* show helicoid inflorescence branching, which is very unusual in subgenus *Baconia*. In variety *sessilifolia*, the terminal leaf pair is sometimes reduced to one leaf, and the leaves of the uppermost two nodes sometimes appear whorled because these nodes are separated by a very short internode.

Pavetta permodesta was a species of unbranched monocaulous dwarfs sensu Robbrecht (1988) whose short stature may have indicated a young stage of the plant, the result of ecological hardship, or having been cut off at ground level. The latter two situations have both been reported on herbarium labels of specimens referred to *P. permodesta*. Features of specimens earlier referred to *P. permodesta* overlap those of other members of *P. bidentata* var. *bidentata*.

Although all material of *Pavetta venusta* seen by Bremekamp (1934) has been destroyed, and no other herbarium material has been found, all *P. bidentata* plants near Yaoundé fit Bremekamp's description of *P. venusta* very well. Their features also overlap with those of other members of *P. bidentata* var. *bidentata*.

3. Pavetta brachycalyx Hiern, Fl. Trop. Africa 3: 169. 1877. *Ixora brachycalyx* (Hiern) Kuntze in Revis. Gen. Pl. 1: 286. 1891. TYPE: Cameroon. Southwest Province: Mt. Cameroon, Dec. 1862 (fl), *Mann 2159* (holotype, K; isotype, P).

Shrubs to 4 m. Twiglets glabrous, floriferous twiglets 4–22 cm. Leaves subcoriaceous, occasionally anisophyllous; blades elliptic to oblong or obovate, (4–)6–20 × (1–)2–9 cm, glabrous, veins glabrous above, glabrous (to less often subglabrous) below; apex acute to obtuse, usually with acumen 5–10 × 3–8 mm; base cuneate to attenuate, occasionally asymmetrical; midrib prominulous or prominent below, secondary veins 4–11 each side, sometimes joined (1–)3–7 mm from margin, sometimes prominulous below; sparingly hairy pocket, pit or crypt domatia in branch vein angles of midrib and occasionally secondary veins; nodules scattered on blade; fourth and higher order venation usually more obvious above; venation density medium. Stipules deciduous, rotund lobed to unlobed and cup-shaped, pubescent internally, glabrous externally, awn cuspidate or linear, ± falcate, 1–4 mm. Inflorescences rotund or subrotund to corymb-shaped in outline or with subunits of these shapes, 1–8 cm across, puberulent distally to subglabrous proximally, peduncle absent or to 7 mm, flowers 10–100. Sheathing bracts with rotund or truncate lobes or unlobed, then bowl-shaped, deciduous, pubescent internally, glabrous (to at times subglabrous) externally, the triangular or linear awns 1–4 × 0.5–1 mm. Other bracts linear to broadly obo-

vate, to ca. 2 mm, usually several-fimbriate, fimbriae ca. 1 mm, or fimbriae borne from axis directly. Bracteoles resembling smaller bracts. Calyx tube 1–1.3 mm long, 1.5–2.5 mm wide halfway up; lobes valvate, compressed rotund (or less often short triangular, rotund or denticulate), 0.2–0.5(–0.8) × 1–1.5 mm (or occasionally truncate at base), subglabrous, sometimes carinate, rim not or narrowly lighter. Corolla creamy white; tube cylindrical or subcylindrical, 3–5(–6) × 1–2 mm; lobes 4–6 mm. Style pubescent, clavate, exserted 5–10 mm. Fruits 7–10 mm across, glabrous, mature color unknown. Seeds 2, attached ca. halfway up septum, concave.

Additional specimens examined. CAMEROON. **Southwest Province:** Mt. Cameroon, Jan. (fl), *Dunlap 20* (K); Mt. Cameroon, Limbe (Victoria) District, Dec. (fl), *TDM = Maitland 908* (K); Mt. Cameroon, S slope above Batoke, Dec. (fl), *Thomas 2827* (MO); Mt. Cameroon, Buea District, Jan. (fl & fr), *Maitland 213* (K).

Pavetta brachycalyx is a forest understory shrub endemic to Mt. Cameroon between ca. 500 and 1500 m. Although specimens with short calyx lobes from other locations have previously been identified as this species, they belong to other species.

Among species with most calyx lobes compressed (Fig. 5), *Pavetta brachycalyx* most closely resembles *P. kupensis* S. D. Manning. *Pavetta kupensis* differs in having mostly strongly obovate leaves and venation often conspicuously brochidodromous below to the naked eye. It also has larger flowers. *Pavetta gabonica* Bremekamp is also similar but has noncompressed calyx lobes.

4. Pavetta brachysiphon Bremekamp, Repert. Spec. Nov. Regni Veg. 37: 74. 1934. TYPE: Cameroon. East Province: near confluence of Lom and Djérem Rivers, near Deng Deng, ca. 235 km NE of Yaoundé, Mar. 1914 (fl), *Mildbraed 8536* (holotype, B destroyed; lectotype, selected here, K).

Shrubs. Twiglets subglabrous, floriferous twiglets 8–20.5 cm. Leaves chartaceous, sometimes anisophyllous; blades elliptic to oblong or obovate, 3–12 × 1–3.5 cm, glabrous below, minutely puberulent or papillate above; veins puberulent to subglabrous below, puberulent above; apex acute with acumen 4–10 × 2–6 mm; base cuneate to attenuate; midrib and secondary veins prominulous below, secondary veins (5–)8–10 each side, sometimes joined 2–6 mm from margin; tuft domatia in branch vein angles of midrib and sometimes secondary veins, sometimes elongated; nodules scattered on blade and sometimes on midrib; fourth and higher order veins more obvious below; venation density fine. Stipules deciduous, sheathing, puberulent externally, pubescent internally; awns not seen. Inflorescences subrotund in outline or with subrotund subunits, 1–3 cm across, congested, pubescent to puberulent, sessile, flowers 50–100; sheathing bracts subrotund lobed to cup-shaped without lobes, pubescent internally near base, puberulent to subglabrous externally; sheath with linear awns or foliar appendages to 2 mm; other bracts deciduous, subquadrate to subquarter-spherical or ovate, to 2 mm, sometimes with 1–many fimbriae to ca. 1 mm; bracteoles resembling smaller bracts. Calyx tube 0.5–0.8 mm long, 1.2–1.8 mm wide halfway up; lobes valvate, rotund to oblong, ovate or pentagonal, 0.5–1.5 × 0.5–1 mm, puberulent, often carinate, rim lighter. Corolla tube cylindrical, 1–2 × 1 mm; lobes 2–4 mm. Style clavate, subglabrous, exserted 2–4 mm.

Pavetta brachysiphon is known only from the type specimen from northwestern East Province, Cameroon, near a forest-savanna boundary. Although the calyx lobes of *P. brachysiphon* are of approximately average length in subgenus *Baconia*, *P. brachysiphon* is distinguished by its otherwise very small flowers in very congested inflorescences. Leaves are small and narrow. The following aspects of leaf morphology are also distinctive: leaves are more or less papillate on upper surfaces and tend to dry golden brown below, darker brown above; domatia are usually along lateral veins as well as the midrib; and fine venation tends to be more obvious below than above. *Pavetta longibrachiata* Bremekamp, *P. laxa* S. D. Manning, and *P. cellulosa* Bremekamp are three species similar to *P. brachysiphon* in these aspects of leaf morphology, except fine venation tends to be more obvious above than below in *P. cellulosa*.

5. Pavetta calothyrsa Bremekamp, Repert. Spec. Nov. Regni Veg. 37: 69. 1934. TYPE: Cameroon. East Province: 3°45′–4°N, between "Lamoko" and the "Posten Plehn," formerly Bezirk Molundu, probably near Ndélélé, Apr. 1911 (fl), *Mildbraed 4921* (holotype, B destroyed; lectotype, selected here, HBG).

Shrubs to 4 m. Twiglets glabrous, floriferous twiglets (6–)20–27 cm. Leaves coriaceous, glabrous, occasionally anisophyllous; blades elliptic to ovate (or less often rotund, oblong, or obovate), (5–)9–32(–37) × 3–13 cm; apex acute to obtuse or rounded, usually with acumen 5–20 × 3–15 mm; base cuneate to attenuate, sometimes asymmetrical; midrib and secondary veins sometimes prominulous below; secondary veins (5–)7–10(–11) each side, usually eucamptodromous; small, subglabrous pit or pocket

domatia sometimes in branch vein angles of midrib; nodules uncommon, usually limited to midrib if present; fourth and higher order veins usually slightly more obvious below, at least somewhat obscure on both faces; venation density fine. Stipules sometimes deciduous, cup-shaped, glabrous externally, pubescent (to rarely subglabrous) internally, the sometimes deciduous linear to triangular awn ca. 3–8 mm. Inflorescences subrotund to corymb-shaped or with subunits of these shapes, 3–25 cm across, pubescent to glabrous; peduncles absent or to 20 mm; flowers 35–450; sheathing bracts sometimes deciduous, lobes broadly triangular to rotund or unlobed, sheath then saucer- or cup-shaped, puberulent to glabrous externally, pubescent or puberulent internally, sometimes with linear awns 1–7 mm or foliar appendages 2–23 mm, foliar bracts similar to slightly reduced foliage leaves occasionally present, other bracts wedge-shaped to ovate, obovate or linear, sometimes truncate or deltoid at top, lobed, or with 1–several fimbriae to 1 mm long at top or fimbriae borne from axis directly; bracteoles resembling smaller bracts. Calyx tube 1–1.5 mm long, 2–2.5 mm wide halfway up; lobes valvate (or less often overlapping slightly at the base), subquadrate, shallowly 2-lobulate (or less often rotund), 0.5–1.5(–2) × 1–2 mm, puberulent, often carinate, rim sometimes lighter. Corolla white, whitish green, or white with greenish apex; tube cylindrical except often constricted at or near base to ca. half its diameter above, 5–9 × 2–4 mm; lobes 5–12 mm, sometimes reflexed. Style clavate, pubescent to puberulent, exserted 8–15 mm. Stigma sometimes narrowly 2-lobed. Fruits 7–10 mm across, crowned by slightly accrescent persistent calyx, subglabrous to glabrous, whitish green. Mature seeds 2 or 1, attached ca. halfway or more up septum, concave.

Additional specimens examined. CAMEROON. **East Province:** Boyo River W of Kongolo near Bétaré Oya, Feb. (fl bud), *Letouzey 3533* (BR, P, YA); 5 km E of Bertoua, Dec. (fr), *Breteler 790* (WAG); 5 km E of Moloundou, Apr. (fl), *Villiers 692* (P); River Dja between Ntouo and Meu Rivers, near Abong Mbang, Apr. (fl), *Letouzey 3763* (BR, YA). **South Province:** Bitya, near River Dja (fl), *Bates 1821* (K), *1822* (K); Avébé Esse, 25 km W of Sangmélima, Mar. (fl), *Letouzey 10145* (BR, P, YA). **Centre Province:** Yaoundé, Jan. or Feb. (fl bud), *Mildbraed 8014* (HBG, K), month unknown (fl bud & fl), *Zenker 700* (NY, K upper part of sheet, P, S), month unknown (fl), *Zenker s.n.* (NY), *Zenker & Staudt 269* (W); N'Kolbisson, 8 km W of Yaoundé, Nov. (fr), *de Wilde & de Wilde-Duyfjes 1217* (BR, MO, WAG, YA); Ngoro, 28 km NE of Bafia, Mar. (fl bud & fl), *Raynal & Raynal 10557* (P, YA); Massif de Ngolé near Ngoro, Apr. (fl), *Raynal & Raynal 10713* (P, YA); and Colline d'Ebat, 40 km SSW of Bafia, Dec. (fl bud), *Letouzey 9692* (BR, YA). **West Province:** Bangang-Fokam, 10 km NE of Bangwa, Apr. (fl bud & fl), *de Wilde & de Wilde-Duyfjes 2378* (MO, BR, WAG, YA); Mt. Bana, Jan. (fl), *Félix 2994* (P).

The northwest portion of the known range of *Pavetta calothyrsa* is in Cameroon, where it occurs in widely scattered drier areas of forest in East, South, Centre, and West Provinces. The species has also been reported from Gabon and Zaïre. It is commonly found in gallery forest and sometimes in or on the edge of forest in otherwise savanna areas, or in disturbed areas. It has been reported on marshy black humus and rocky substrates. Reported elevations are from 650 to 1400 m.

The inflorescences of *Pavetta calothyrsa* are usually among the largest, and peduncles are sometimes among the longest, in subgenus *Baconia*. Most leaves and flowers are also larger than average for the subgenus. The only other taxon of subgenus *Baconia* from Cameroon whose fruits are known to have conspicuously large, persistent calyx lobes is *P. owariensis* Palisot de Beauvois var. *satabiei* S. D. Manning, in which they are rotund to deltoid, pentagonal, or ovate but not subquadrate or 2-lobulate as in *P. calothyrsa*. *Pavetta calothyrsa* and *P. molundensis* are superficially similar but differ in calyx lobe shape. *Pavetta calothyrsa* resembles *P. robusta* Bremekamp in calyx lobe shape, large leaves, and many-flowered inflorescences, but calyx lobes in *P. calothyrsa* are 1 mm or more long, those in *P. robusta* 0.5–1 mm long. Also, bacterial nodules are absent or few and usually along the midrib in *P. calothyrsa*; in *P. robusta*, they are scattered on the blade more than along the midrib.

Pavetta calothyrsa is restored here from synonymy with *P. nitidula* Hiern, which does not occur in Cameroon. *Pavetta calothyrsa* and *P. nitidula* are similar (Hiern, 1898; Bridson, 1978), but *P. nitidula* has sessile or subsessile leaves only 3.5–16.5 × 1–4.5 cm lacking acumens, usually triangular or rotund calyx lobes, sometimes purple or pink corollas, many more nodules including some scattered on the blade, and inflorescences only 2–7 cm across.

6. Pavetta camerounensis S. D. Manning, sp. nov. TYPE: Cameroon. South Province: massif de Ngovayang, 16 km W of Lolodorf, Feb. 1979 (fl bud & fl), *Satabié & Letouzey 373* (holotype, P; isotype, YA).

KEY TO THE SUBSPECIES OF *PAVETTA CAMEROUNENSIS* IN CAMEROON

1. Floriferous twiglets 9–21 cm long ..... subsp. *camerounensis*
1. Floriferous twiglets absent or 0.5–9 cm long ..... subsp. *brevirama*

a. Pavetta camerounensis subsp. **camerounensis.** Figure 9.

Frutices. Rami glabri (vel aliquando subglabri). Rami floriferi 9–21 cm. Folia nervis secundariis utroque 8–23, domatiis nullis, aliquot venis tertiariis interdum subter prominentibus vel prominulis. Inflorescentiae 0.2–2.5 cm latae, saepe congestae. Lobi calycini valvati, subrotundati (ad interdum rotundatos, triangulares, denticulatos vel truncatos), ≤ 1 × 1–1.5 mm, glabri. Corolla tubo 2–4 mm, lobis 3–5 mm, lobis saepe super prope faucem puberscentibus. Styli exserti 2–4 mm. Semina 1–2(–3).

Shrubs to 2.5 m. Twiglets glabrous (to at times subglabrous), floriferous twiglets 9–21 cm. Leaves chartaceous to coriaceous, glabrous (to less often puberulent on veins below), occasionally anisophyllous; blades broadly to narrowly obovate, elliptical, ovate (or occasionally oblong), 12–32 × (2.5–) 4–12 cm; apex acute to obtuse or rounded usually with acumen 5–30 × 2–10 mm; base cuneate to attenuate, sometimes asymmetrical; midrib and secondary veins prominent or prominulous below at least near base, secondary veins sometimes impressed above, 8–23 each side, usually joined 1–11 mm from margin; domatia absent; nodules absent or few, linear, along midrib and secondary veins or rarely on blade; tertiary veins sometimes prominulous below; fourth and higher order venation obvious above and usually below; venation density medium. Stipules often deciduous or fragmented, apparently rotund to ovate or deltoid lobed, glabrous or subglabrous (or less often puberulent) externally, glabrous to thinly pubescent especially near base internally, at least sometimes with a linear or cuspidate awn 1–5 × 1–3 mm. Inflorescences sometimes subcapitate or subumbellate, rotund to subrotund in outline, 0.2–2.5 cm across, congested, puberulent to glabrous, peduncle absent or to 3 mm, obscured by sheathing bracts, flowers 5–60; sheathing bracts rotund to deltoid lobed or unlobed, then saucer- or bowl-shaped, glabrous to puberulent or thinly pubescent, sometimes with ovate or linear awns or foliar appendages 1–3 mm long, sometimes attached ca. halfway down the sheath, sometimes near its apex; other bracts often light cream, subquadrate to subtruncate and wedge-shaped, ovate, deltoid or linear, often at least as wide as long, to 2 mm, sometimes including 1–3 fimbriae or a linear awn ca. 1 mm, or fimbriae borne from axis directly; bracteoles resembling smaller bracts. Calyx tube 0.7–1 mm long, 1.2–2 mm wide halfway up; lobes valvate, compressed rotund (to less often truncate, rotund, triangular, denticulate or cleft near apex), ≤ 1 × 1–1.5 mm, glabrous, sometimes carinate, rim lighter, sometimes narrowly so. Corolla white, creamy, pale green, or greenish yellow; tube cylindrical or subcylindrical, sometimes constricted near base, 2–4 × 1–2 mm; lobes 3–5 mm, usually puberulent near base above. Style fusiform or clavate, pubescent to subglabrous, exserted 2–4 mm. Fruits 7–12 mm across, sometimes with persistent calyx, glabrous, dirty or glaucous grayish green, bluish, or greenish white with a bluish sheen. Mature seeds 1–2(–3), attached halfway or more up septum, concave.

Additional specimens examined. CAMEROON. **South Province:** Bipindi, Jan. (fl), *Manning 1408* (MO); hill Nkoltsia ca. 23 km NW of Bipindi, Nov. (fl bud), *Villiers 1003* (P); 27 km E of Kribi, Jan. (fl), *Bos 6173* (K, P, WAG); and 10 km E of Kribi, May (fr), *Bos 4654* (WAG). **Centre Province:** N'kolbisson, 8 km W of Yaoundé, Nov. (fl bud & fl), *de Wilde & de Wilde-Duyfjes 1211* (WAG), Nov. (fr), *de Wilde & de Wilde-Duyfjes 1184* (P, WAG), Sep. (fr), *Manning 171* (MO); Mt. Fébé, near Yaoundé, Nov. (fr), *de Wilde et al. 3801* (WAG); 15 km SSW of Obala, Dec. (fl), *Letouzey 9776* (BR, YA). **Centre or Littoral Province:** Kéllé River, 60 km NNW of Eséka, Mar. (fr), *de Wilde & de Wilde-Duyfjes 2186* (P, WAG); Kéllé River 50 km NW of Eséka, Nov. (fl bud & vegetative), *de Wilde & de Wilde-Duyfjes 1318 & 1318B* (WAG), *1318C* (P); not *1318* (K) & *1318C* (WAG), which are *Pavetta gabonica*; 30 km WNW of Eséka, Dec. (fl bud & fr), *de Wilde & de Wilde-Duyfjes 1491* (BR, WAG). *De Wilde & de Wilde-Duyfjes 1318* is a mixed collection; *1318, 1318B,* and *1318C* above refer to designations on herbarium labels, not tied tags attached to specimens, when the designations conflict.

b. Pavetta camerounensis subsp. **brevirama** S. D. Manning, subsp. nov. TYPE: Cameroon. Southwest Province: Barombi-Mbo village, ca. 5 km NW of Kumba, Dec. 1986 (fl bud & fl), *Nemba & Thomas 417* (holotype, MO; isotypes, BR, YA not seen). Figure 10.

A subspecie *camerounensi* ramis floriferis absentibus vel non plus quam 9 cm longis, inflorescentiis interdum axillaribus differt.

Similar to subspecies *camerounensis* except floriferous twiglets absent or less than 9 cm long, inflorescences sometimes axillary with peduncle to 5 mm.

Although the longest floriferous twiglet of subspecies *brevirama* is as long as the shortest in subspecies *camerounensis,* floriferous twiglets of the two subspecies normally differ sharply in length (Figs. 9 and 10). Although other character states overlap, the following features of subspecies *brevirama* also tend to differ and may be useful in confirming identifications: absence of leaves with broadly ovate blades (common in subspecies *camerounensis*) or rounded apices, though other shapes described for subspecies *camerounensis* all occur; nodule-like growths if present sometimes ramifying extensively with leaf ve-

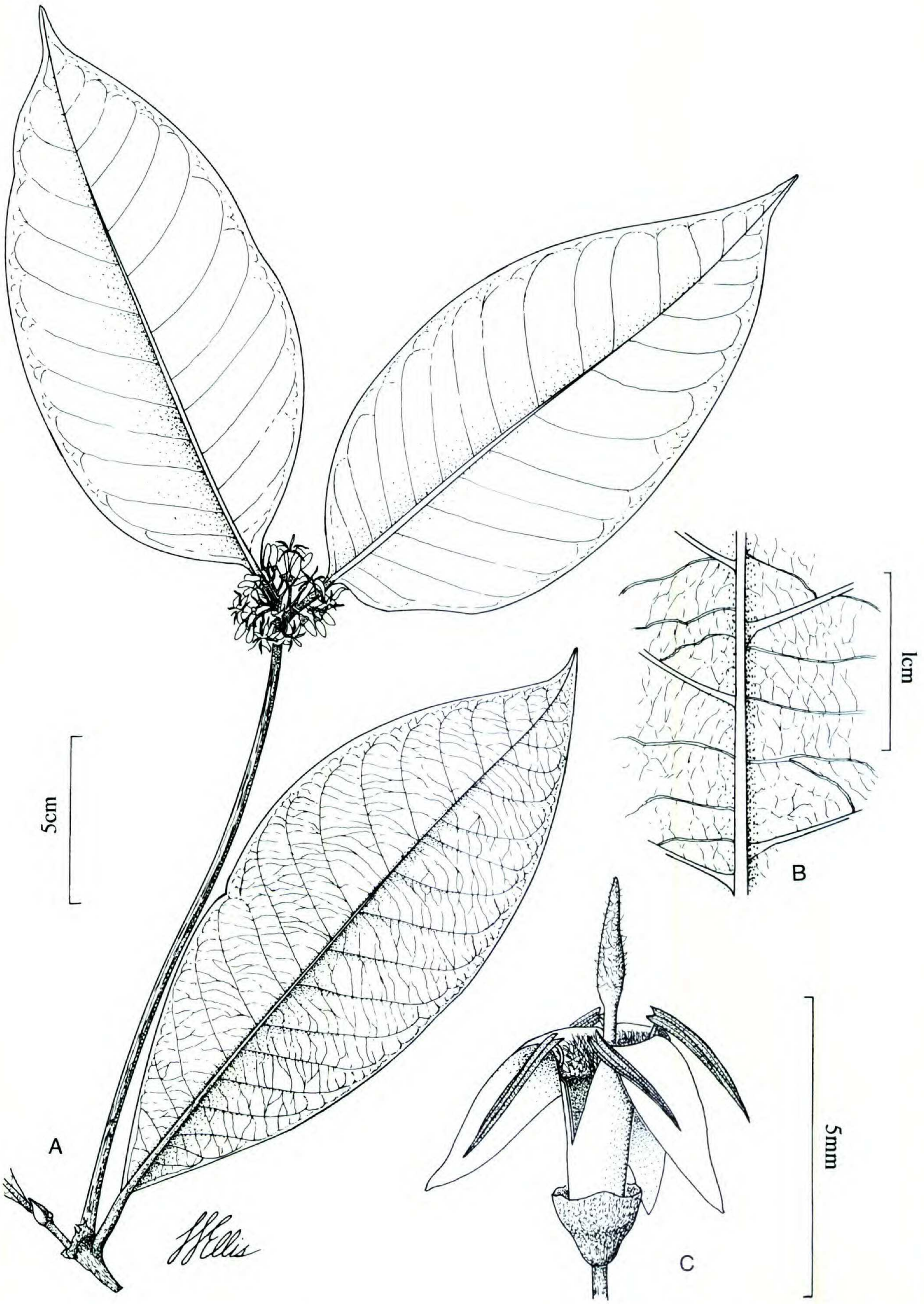


Figure 9. *Pavetta camerounensis* subsp. *camerounensis* (*Satabié & Letouzey 373*, P).—A. Habit.—B. Details of leaf venation.—C. Flower.

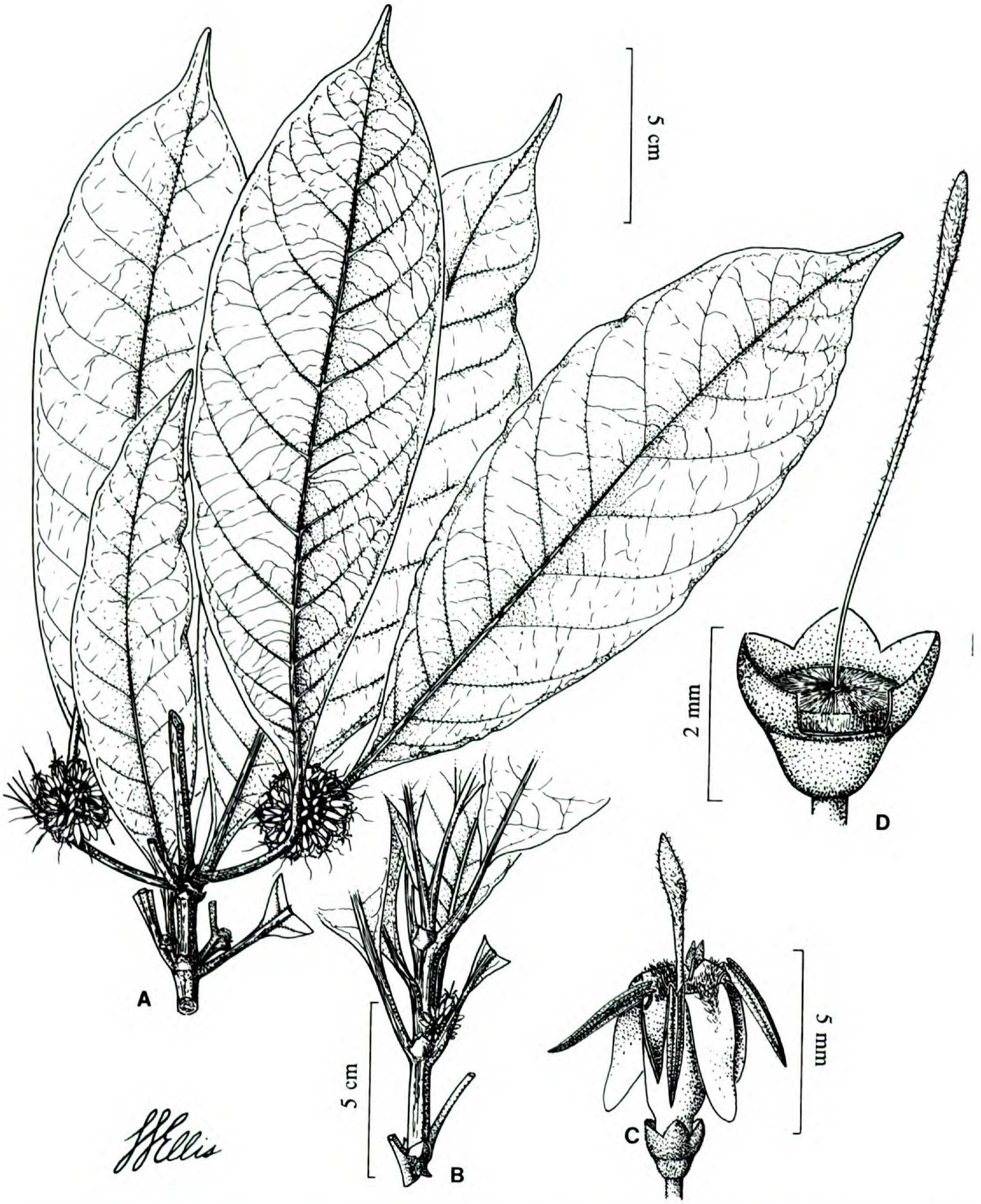


Figure 10. *Pavetta camerounensis* subsp. *brevirama* (*Nemba & Thomas 417*, MO). (A, C, D, MO holotype; B, MO isotype).—A. Habit—larger inflorescences terminal on short side branches, smaller ones axillary at lower nodes.—B. Nodes, one showing an axillary inflorescence.—C. Flower with corolla throat beard extending out onto corolla lobe.—D. Flower, corolla and part of calyx removed to show epigynous nectary disk.

nation; sheathing bract awns sometimes up to 5 mm; other bracts sometimes obscured by inflorescence congestion; calyx lobes occasionally subquadrate, sometimes puberulent; major veins rarely impressed above. Subspecies *camerounensis* specimens often dry lighter green than those of subspecies *brevirama*. Also, the two taxa are largely geographically separate.

Additional specimens examined. CAMEROON. **Southwest Province:** Korup National Park, Mar. (fl & young fr), *Thomas & McLeod 5724* (MO), Dec. (fl bud & fr), *Thomas 4108* (MO), Apr. (young fr), *Manning 1742* (MO), *1750* (MO), Apr. (young fr & fr), *Manning 1757* (MO), Apr. (fr), *Manning 1729* (MO); Ekondo Titi-Mundemba road, Jan. (fl), *Thomas 4358* (MO); S of Ekumbako, Dec. (fl bud, fl & fr), *Thomas 2703* (MO); Mundemba-Fabe road, Nov. (fr), *Nemba 336* (MO); Southern Bakundu Forest Reserve, Banga, Mar. (young fr), *Brenan 9279* (K), *9279A* (K), W of Bombe, Sep. (fr), *Manning 101* (MO), *111* (MO), A.T.S.S. plot 2A, Aug. (fr), *Olorunfemi FHI 30719* (K); inside crater of Lake Barombi-Mbo, ca. 3 km NW of Kumba, Nov. (fl bud & fl), *Manning 854* (MO), Nov. (fl & fr), *Manning 849* (MO), *856* (MO); 1 km W of Lake Barombi-Mbo, ca. 5 km NW of Kumba, Dec. (fl & fr), *Manning 1080* (MO); Bolo-Meboka, Kumba-Mamfe road between Kumba and Konye, Sep. (fr), *Nemba 245* (MO); Baduma, Kumba-Mamfe road, Aug. (fr), *Nemba & Thomas 185* (MO); Bakolle-Bakossi, Kumba-Mamfe road, May (fr), *Etuge & Thomas 134* (MO). **Littoral Province:** Douala–Yabassi road 30 km N of bifurcation for Edéa, May (fr), *Farron 7286* (P).

So far as is known, both subspecies of *Pavetta camerounensis* are endemic to Cameroon. Subspecies *camerounensis* has been found only in the wet western portion of South Province and in southern Centre and (?) Littoral Provinces. Subspecies *brevirama* is one of the most common *Pavetta* taxa in and near the extremely high rainfall Korup National Park in southwestern Southwest Province. It also occurs north and east of there in less extremely wet forest in Southwest and Littoral Provinces.

Subspecies *camerounensis* is a shrub at elevations from 120 to 1000 m in varied habitats, usually in fully shaded forest. It also occurs in degraded and secondary forest and forest borders and has been collected both along rivers and on mountains. Reported substrates include sandy and clayish soils and loamy soil on granitic rock. Subspecies *brevirama* is a small shrub in deep shade and less often partly shaded locations. Its highest reported elevation is 350 m, inside the crater of Lake Barombi Mbo, not far above lake water level.

Corolla throat vestiture of *Pavetta camerounensis* extends onto adaxial surfaces of corolla lobes, a condition found in only a few other species. *Pavetta camerounensis* resembles *P. grossissima*, *P. gabonica*, and *P. tenuissima*. *Pavetta camerounensis*, like *P. grossissima*, has inflorescences so condensed as to often appear subumbellate; *P. grossissima*, however, has extremely coarse reticulation of higher order leaf venation, unlike *P. camerounensis*. The largest inflorescences of *P. camerounensis* resemble those of *P. gabonica*, but in *P. gabonica* the corolla throat vestiture does not normally extend onto the lobes as it does in *P. camerounensis*. The number of secondary vein pairs does not exceed 10 in *P. gabonica*; it always does on at least some leaves in *P. camerounensis*. Specimens of *P. gabonica* often have smaller leaves than those of *P. camerounensis*. *Pavetta camerounensis*, particularly subspecies *brevirama*, resembles *P. tenuissima* in its condensed inflorescences, leaf sizes and shapes, lack of anisophylly, and in that floriferous twiglets are sometimes so reduced as to render inflorescences axillary. *Pavetta tenuissima* differs in that its leaves usually have extremely fine mesh reticulation of their higher order veins and in that its secondary and tertiary veins have a more predominant rectangular gridlike pattern below on herbarium specimens.

Pavetta camerounensis is so named because it is relatively widespread in Cameroon forests.

7. Pavetta cellulosa Bremekamp, Repert. Spec. Nov. Regni Veg. 37: 75. 1934. TYPE: Zaïre. Eala, Sep. 1907 (fl bud & fl), *Pynaert 1692* (holotype, BR).

Shrubs or small trees with stem to at least 5 cm diam. Twiglets subglabrous or glabrous, finally puberulent; floriferous twiglets (3–)6–20 cm. Leaves chartaceous, occasionally anisophyllous; blades elliptic to oblong, obovate or ovate, 5–19 × 1.5–6.5 cm, glabrous, veins subglabrous or glabrous above, subglabrous below; apex acute (to less often rounded) with acumen 5–10(–15) × 5 mm; base cuneate (to sometimes attenuate), sometimes asymmetrical; midrib and secondary veins usually prominulous below; secondary veins (5–)7–11 each side, usually eucamptodromous; hairy pocket or pit domatia in most branch vein angles of midrib and usually along secondary veins, sometimes extending several mm from branch vein angle; nodules scattered on blade; fourth and higher order venation usually slightly more clearly visible above; venation density medium to fine. Stipules cup-shaped, deciduous, subglabrous to puberulent externally, pubescent internally, awn cuspidate, 2 × 0.5 mm. Inflorescences subrotund to corymb-shaped in outline or with subunits of these shapes, (0.5–)1–8 cm across, pubescent to puberulent, sessile, flowers (10–)25–100; sheathing bracts rotund lobed or unlobed and cup-shaped, puberulent externally, pubescent internally, sometimes with linear awns 2–4 mm; other bracts ± ovate, to ca. 3 mm, most larger ones concave with 1–3 fimbriae, or fimbriae borne from axis directly; bracteoles resembling smaller bracts sometimes present. Calyx tube 1.5–2 mm long, 2–2.3 mm wide halfway up; lobes valvate, oblong, ovate, rotund, long or short triangular (or less often subquadrate or pentagonal), 0.5–2(–2.5) × 1–1.5 (–2) mm, pubescent, usually carinate, rim lighter.

Corolla white, tube cylindrical, 2–6 × 1–2 mm; lobes 5–8 mm. Anthers septate. Style clavate, pubescent, exserted 6–11 mm. Prefruiting ovules 2, ± reniform, attached ca. halfway up septum.

Additional specimens examined. CAMEROON. **South Province:** Bitye, River Dja (fl), *Bates 1573* (BM, MO).

Pavetta cellulosa is known only from Zaïre except for the collection reported here from lowland forest in eastern South Province, south-central Cameroon.

Although the collection from Cameroon differs from ones from Zaïre in having some calyx lobes more elongate and in having domatia less prominent or common along secondary veins, infraspecific taxa are not created here in the absence of more Cameroon material.

The anther thecae of *Pavetta cellulosa* are nearly all septate in open flower after dehiscence. This distinguishing feature otherwise occurs in subgenus *Baconia* only in *P. urophylla* subsp. *urophylla*, which does not occur in Cameroon. Other features of *P. cellulosa* useful for identifying nonflowering specimens are the partly deciduous stipules, which leave behind bases of stipule sheaths that sometimes dry conspicuously lighter brown than the dark brown stem, and the similarity to *P. longibrachiata* and *P. brachysiphon* in leaf morphology. For example, leaves of *P. cellulosa* tend to dry golden brown below, darker brown above, and domatia are usually along lateral veins as well as the midrib. Higher order venation tends to be more obvious above than below, however, unlike in the latter two species, and upper leaf surfaces are not papillate as they usually are in those two species.

8. Pavetta corymbosa (A. P. de Candolle) F. N. Williams, Bull. Herb. Boissier Sér. 2: 378. 1907. *Baconia corymbosa* DC., Ann. Mus. Natl. Hist. Nat. 9: 219. 1807. *Verulamia corymbosa* DC. ex Poir., Encycl. Méth. Bot. 8: 543. 1808. TYPE: Sierra Leone. 1785 (fl), *Smeathman s.n.* (holotype, G-DC not seen; probable isotype, MPU photocopy seen; reported as "Stadman" for *Verulamia corymbosa*).

Pavetta rhombifolia Bremek., Repert. Spec. Nov. Regni Veg. 37: 64. 1934. TYPE: Sierra Leone. Highlands of Bafodya, *Scott Elliot 5506* (K).

KEY TO THE VARIETIES OF *PAVETTA CORYMBOSA* IN CAMEROON

1. Floriferous twiglets glabrous to subglabrous; leaf veins subglabrous to puberulent below; most calyx lobe bases overlapping after flowers open ..... var. *corymbosa*
1. Floriferous twiglets pubescent; leaf veins puberulent to pubescent below; >10% of calyx lobe bases overlapping but most calyx lobes valvate after flowers open ..... var. *neglecta*

a. Pavetta corymbosa var. corymbosa

Pavetta corymbosa var. *glabra* Bremekamp, Repert. Spec. Nov. Regni Veg. 37: 70. 1934.

Shrubs to 3 m. Twiglets glabrous to subglabrous, floriferous twiglets to 25 cm, sometimes strongly curved. Leaves chartaceous to coriaceous, sometimes anisophyllous, blades above and below and veins above glabrous (to less often subglabrous), veins below subglabrous to puberulent; blades elliptic to ovate or obovate, 4–17 × 1–6.5 cm; apex acute (to occasionally obtuse) with acumen 3–8 × 2–4 mm; base cuneate to attenuate, often asymmetrical; midrib prominent below, secondary veins prominulous below, 7–10 each side, sometimes joined 1–6 mm from margin; nodules along midrib and scattered on blade; pubescent domatial tufts, pockets or pits in branch vein angles of midrib and some secondary veins; fourth and higher order venation more obvious below; venation density very fine. Stipules cup-shaped, subglabrous to glabrous outside, pubescent inside, awns linear or cuspidate, ± falcate, 2–5 mm. Inflorescences subrotund to corymb-shaped in outline, 5–7 cm across, pubescent to puberulent, peduncle absent or ca. 2 mm, flowers 50–100; sheathing bracts unlobed and cup-shaped or rotund or pentagonal lobed, puberulent or subglabrous outside, at least sometimes glabrous inside, sometimes with fimbriae to 2 mm or linear awns ca. 2 mm; foliar bracts 7–50 mm usually present; other bracts obovate to ovate or linear, to 3 mm, sometimes with fimbriae 1–2 mm, or fimbriae borne from axis directly; bracteoles resembling smaller bracts. Calyx tube 1.2–1.5 mm long, 2–3 mm wide halfway up, lobe bases usually overlapping, lobes rotund to compressed rotund, subquadrate, obovate or shallowly 2-lobulate, ca. 1–2 × 1.5–2 mm, pubescent to subglabrous, sometimes carinate, rim much lighter. Corolla white; tube cylindrical, 4–8 × 2 mm; lobes 9–11 mm. Style clavate, puberulent, exserted 9–14 mm. Fruits ca. 1 cm across, subglabrous or glabrous. Seeds 2, attached ca. halfway up septum, concave.

Additional specimens examined. SIERRA LEONE. (fl), *Hormont s.n.* (BM left side of sheet). CAMEROON. **Adamaoua Province(?):** Dodéo, Mar. (fl), *Félix 339* (HBG).

b. Pavetta corymbosa var. neglecta Breme-

kamp, Repert. Spec. Nov. Regni Veg. 37: 70. 1934. TYPE: Ghana. Volta Region, formerly Togoland: Kpandu, 1924 (fl bud & fl), *Robertson 102* (holotype, BM; isotype, MO).

Similar to variety *corymbosa* except that the twiglets are pubescent, there is more vestiture on leaf veins above and below, and most calyx lobes are valvate after flowers open.

Other character states of Cameroon representatives of the two varieties overlap to varying degrees (see Manning, 1990, for details). The small number of collections from Cameroon and large number of collections from elsewhere suggest that revision of this species may result in combination of the two varieties or other changes.

Additional specimens examined. CAMEROON. **Northwest Province:** Ndop plain between Bamali and Bambalang, Apr. (fl bud & fl), *Brunt 357* (K); locality uncertain but Northwest Province thought most likely = Metchie River 2 km N of Bamougoum, May (fl bud & fl), *de Wilde & de Wilde-Duyfjes 2519* (BR, P, WAG). **West Province:** Dschang, May (fl bud & fl), *Félix 5204* (P).

Both varieties of *Pavetta corymbosa* occur in savanna and have a more northern distribution than any other species of subgenus *Baconia* except *Pavetta lasioclada*. The presence of variety *corymbosa* very near the Nigerian border with northern Adamaoua Province in Cameroon is part of a distribution west to Sénégambia in the Guineo-Congolian/Sudanian Transition Zone sensu White (1979). The presence of variety *neglecta* in West and Northwest Provinces of Cameroon is part of a distribution at least as far west as Ivory Coast and as far east as Central African Republic (Hepper & Keay, 1963), mainly in the Guineo-Congolian/Sudanian transition zone sensu White (1979), despite the representatives from Cameroon occurring in the Lower Guinean subcentre of specific endemism sensu White (1979).

Pavetta corymbosa var. *neglecta* grows in gallery forest. All plants from Cameroon for which there are field data were collected near water. There are no field data on the Cameroon sheet referred to variety *corymbosa*.

Pavetta corymbosa is most commonly identified by its often overlapping calyx lobe bases, a feature also found in *P. robusta* and a few other species. Leaves are smaller and inflorescences smaller or fewer flowered than in similar species such as *P. robusta* and *P. calothyrsa*. Flowers are larger than in most species from Cameroon.

Although Houttuyn purportedly described another taxon as *Pavetta corymbosa* in 1813 (Hiern, 1877), the name Houttuyn actually gave that taxon was *Crinita capensis* Houtt. Attempts to find a valid publication of *Pavetta corymbosa* Houtt. at BR, K, and elsewhere have been unsuccessful; all references to it I have seen have been as a synonym of later names. Thus, I follow Bremekamp (1934) in treating *P. corymbosa* Houtt. as a nomen nudum. The currently accepted name *Pavetta corymbosa* (DC.) F. N. Williams was thus available when published in 1907 and is thus retained.

9. Pavetta gabonica Bremekamp, Repert. Spec. Nov. Regni Veg. 37: 77. 1934. TYPE: Gabon. Sierra del Crystal: 1°N, July 1862 (fl), *Mann 1729* (holotype, K; isotype, P).

Shrubs to 3 m. Twiglets glabrous or subglabrous, floriferous twiglets (2–)5–35 cm. Leaves chartaceous to subcoriaceous, sometimes anisophyllous; blades obovate to oblong (less often elliptic or ovate), (1.5–)3–25 × (0.5–)1–11 cm; blades and major veins glabrous (or sometimes subglabrous below); apex acute to obtuse (or occasionally rounded), acumen (2–)5–25 × (1–)3–12(–30) mm, rarely absent; base cuneate to attenuate (or occasionally obtuse), sometimes asymmetrical; midrib prominulous below toward base; secondary veins 4–10 each side, sometimes joined 2–5 mm from margin; small tuft, pit, pocket, or intermediate between pocket and pit domatia sometimes in branch vein angles of midrib and rarely along secondary veins; nodules sometimes scattered on blade, less often along midrib; fourth and higher order venation usually more obvious above but also visible below, occasionally equally obvious above and below; venation density medium. Stipules deciduous, unlobed and cup-shaped to triangular lobed, pubescent inside, glabrous or subglabrous outside; cuspidate to linear awn 1–2(–5) mm. Inflorescences rotund to subrotund, irregular (or less often pyramidal) in outline, 1–5.5 cm across, flowers sometimes congested, lower branches and subunits often well spaced, pubescent to puberulent (to rarely glabrous) distally, subglabrous to puberulent (rarely glabrous) proximally, usually with peduncles to 10 mm, sometimes with broadly spreading sheathing bracts along and at bases of peduncles; flowers 10–150; sheathing bracts rotund lobed, partly deciduous, glabrous or subglabrous outside, pubescent to subglabrous inside, sometimes with linear awns ca. 1 mm, occasionally with foliar appendages 3–4 mm; other bracts ± ovate to obovate, to 4 mm, often with 1–many fimbriae to 2 mm, or 1–several fimbriae or a tuft of hairs borne from axis directly; bracteoles resembling smaller bracts. Calyx tube 0.7–1 mm long, 1.2–2 mm wide halfway up; lobes valvate,

deltoid to pentagonal, rotund (or less often subquadrate, subrotund, or truncate), (0.1–)0.2–1 × 0.7–1.5 mm, puberulent to subglabrous, sometimes carinate, rim lighter. Corolla at least sometimes dark glaucous green in bud and cream, yellow, yellowish white, or greenish later, tube usually broadening from base to up to ca. twice as wide at throat, otherwise subcylindrical, 2–4 × (0.5–)1–2 mm; lobes (2–)3–5 mm. Style clavate, pubescent (or less often puberulent), exserted 3–7 mm. Fruits ca. 5–7 mm across, subglabrous or glabrous, orange, brownish, or dull yellow. Mature seeds 2 or 1, attached ca. halfway up septum, concave.

Additional specimens examined. CAMEROON. **Southwest Province:** Kumba = Johann-Albrechtshöhe (fl), *Staudt 565* (S); Bakolle Bakossi on Kumba-Mamfe road, May (fr), *Etuge & Thomas 146* (MO); Bakossi Mountains W of Bangem, Jan. (fl), *Thomas & McLeod 5296* (MO), Jan. (fl & fr), *Thomas & McLeod 5354* (MO); crest of Nta Ali, 30 km SE of Mamfe, June (fr), *Letouzey 13862* (BR, YA). **Centre Province:** 30 km SW of Eséka, Dec. (fl), *de Wilde & de Wilde-Duyfjes 1493B* (BR, P, WAG); 30 km WNW of Eséka, Dec. (fr), *de Wilde & de Wilde-Duyfjes 1493* (BR, MO, P, WAG, YA); near Ngong 25 km NE of Eséka, Dec. (fl bud & fl), *Letouzey 12347* (YA); 90 km W of Yaoundé, Nov. (fr), *de Wilde et al. 3907* (K, WAG); 23 km W of Yaoundé, June (fr), *Manning 2128* (MO), *2134* (MO), *2141* (MO). **Littoral Province (Centre?):** Kéllé River, 50 km NW of Eséka, Nov. (fl bud), *de Wilde & de Wilde-Duyfjes 1318* (K), (fl bud & fl), *1318C* (WAG) [not *1318* or *1318B* (WAG) or *1318C* (P), which are *Pavetta camerounensis*]. **South Province:** Bipindi, month unknown (fl bud & fl), *Zenker 1204* (BM, HBG, MO, S, W, WAG), *2468* (BM, BR), *4744* (BM, BR, HBG, MO, W), Mar. (fl & fr), *Zenker 268* (BR, GH, MO, P, US, WAG), month unknown (fl & fr), *Zenker 1565* (BM, BR, HBG, K, MO, S, W, WAG), month unknown (fr), *Zenker 2618* (BM, BR, HBG, K, P, W), *3164* (K); Lolodorf (fl), *Staudt 8* (S); Ebemvok 55 km W of Ebolowa, Mar. (young fr), *Raynal & Raynal 10437* (P); Efulen (= Efoulan? or Grand Batanga? or Evouma? or Batanga, Gabon?), Mar. (fl & fr), *Bates 451* (K); 7 km N of Kribi, Nov. (fl bud), *Bos 5611* (P). GABON. Environs of Libreville, July (fl bud), *Klaine 1924* (BR), month unknown (fl), *Klaine 2193* (BR); Abanga Chantier C.E.T.A., June (fl bud & fl), *N. Hallé 2207* (P); Gaboon River, 1°N, July (fl bud & fl), *Mann 962* (K).

Pavetta gabonica occurs in Gabon and southwestern Cameroon, centered in the Lower Guinean subcentre of specific endemism sensu White (1979). Within Cameroon, it occurs in western South Province, southwestern Centre Province, and the eastern half of Southwest Province. It is typically a small shrub of shady wet forests, sometimes near watercourses or in swampy areas. Usually a lowland species, it also has been found at elevations of 800–900 m west of Yaoundé and similar elevations in mountains of northern Southwest Province.

Pavetta gabonica has two features rather unusual in subgenus *Baconia*: orange to yellow or brownish fruits and often yellowish flowers. It is compared with *P. brachycalyx* following the description of that species. *Pavetta brachycalyx* appears to be a close montane relative of the more widespread *P. gabonica.*

The type specimen from Gabon is smaller leaved and fewer flowered than most members of the species, especially those in Cameroon. Other collections from Gabon bridge the morphological gap between the type and Cameroon representatives.

10. Pavetta grossissima S. D. Manning, sp. nov. TYPE: Cameroon. Southwest Province: 5 km NE of Mundemba, Nov. 1986 (fr), *Manning 944* (holotype, MO; isotypes, BR, K, YA). Figure 11.

Frutices. Folia nervis secundariis utroque 5–12; reticulo grossissimo. Infructescentiae suburbellatae, puberulae, 0.1–2 cm latae. Lobi calycini in fructu valvati, rotundati, rotundato-compressi, ovati vel pentagonales, ca. 0.2–1 × 1 mm. Fructus maturi interdum cum calyce persistenti, aurantici.

Shrubs to 1 m. Twiglets puberulent (to sometimes subglabrous), floriferous twiglets 4–20 cm and probably longer (less often absent or <4 cm). Leaves chartaceous, sometimes anisophyllous; blades oblong to elliptic, obovate (or uncommonly ovate), 4–22 × 2–9 cm, glabrous; veins puberulent to subglabrous; apex acute or rounded, subacuminate or with acumen 5–20 × 2–11 mm; base cuneate to obtuse (occasionally rounded), sometimes asymmetrical; midrib and secondary veins prominulous below, secondary veins 5–12 each side, mostly eucamptodromous; minute tuft domatia sometimes in branch vein angles of midrib, sometimes accompanied by pits; nodules scattered on blade, sometimes along midrib; third and higher order venation obvious above and below; venation density very coarse. Stipules deciduous, rotund lobed to unlobed and cup-shaped, subglabrous to puberulent externally, glabrous internally; awn linear, 2 mm to cuspidate, 4 × 2 mm. Infructescences subumbellate, rotund in outline or reduced and of irregular shape, 0.1–2 cm across, puberulent, peduncle to 5 mm or absent; fruits 1–12; sheathing bracts rotund lobed to unlobed and saucer-shaped, puberulent externally, glabrous or subglabrous internally, awns deciduous, fimbriae if present ca. 0.5 mm; other bracts ± obovate to linear or subquadrate, ca. 1 mm, fimbriae if present 0.5–1 mm; bracteoles resembling smaller bracts. Calyx seen only on fruits, tube then 0.5–1 mm long, 1–2 mm wide halfway up; lobes then valvate, ± rotund, compressed rotund, ovate or pentagonal, 0.2–1 × 1

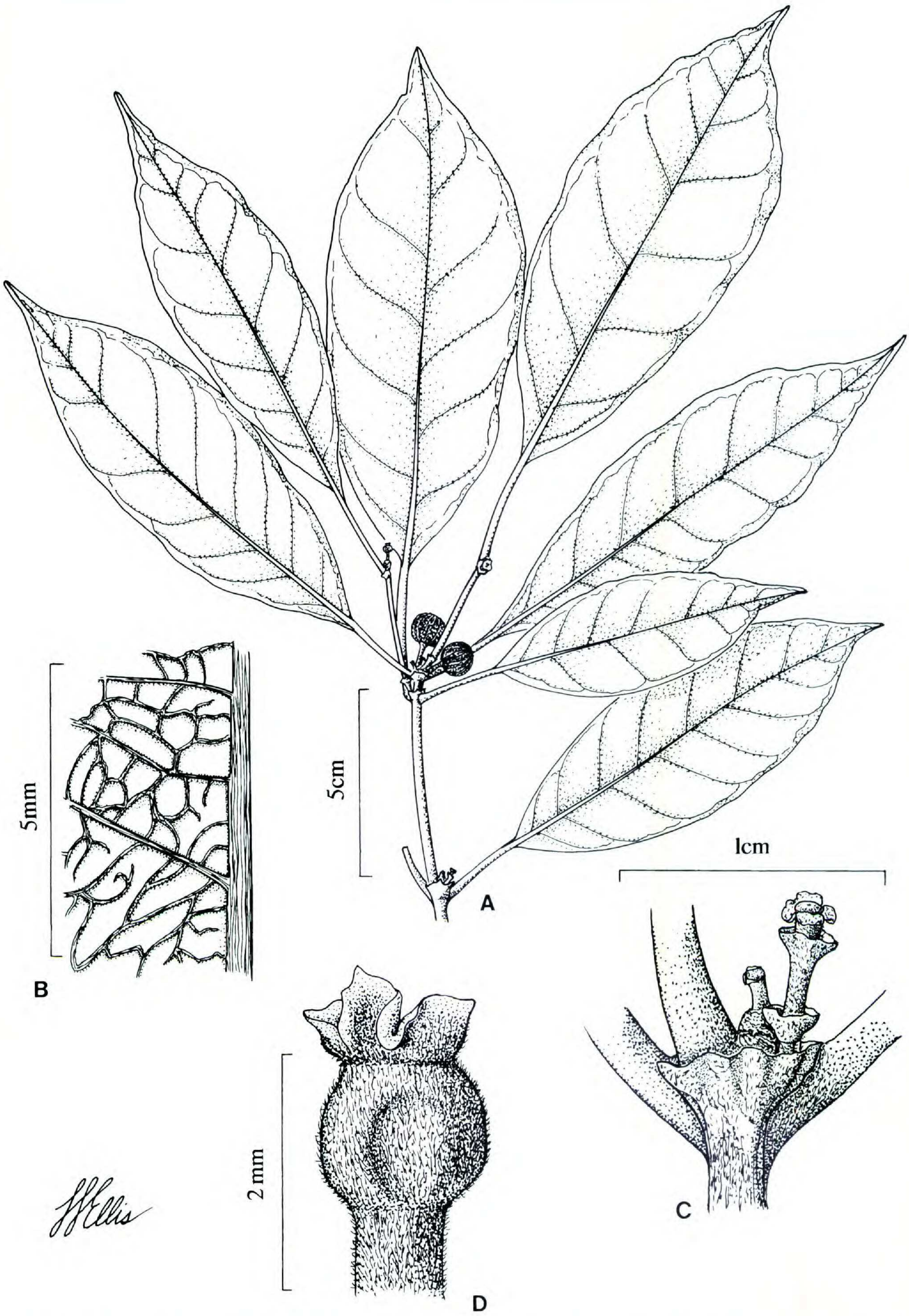


Figure 11. *Pavetta grossissima* (*Manning 944*, MO).—A. Habit, including terminal and axillary infructescences.—B. Details of leaf venation, coarsest seen in subgenus *Baconia*.—C. Axillary infructescence. D. Young fruit with persistent calyx.

mm, puberulent, sometimes carinate, rim lighter. Other floral parts not seen. Fruits ca. 1 cm across, glabrous or subglabrous, sometimes with persistent calyx, orange. Mature seeds 2, or 1 and empty second locule then very reduced, attached ca. halfway up septum, concave.

Additional specimens examined. CAMEROON. **Southwest Province:** 10 km SE of Mundemba, Nov. (fr), *Manning 970* (MO), *973* (BR, K, MO); 5 km NE of Mundemba, Nov. (fr), *Manning 906* (MO), *929* (MO); Korup National Park, Apr. (young fr), *Manning 1710* (MO), *1722* (MO), *1767* (MO), Dec. (fr), *Thomas 4111* (MO), June (vegetative), *Thomas 449* (BR).

Pavetta grossissima is known only from in and near Korup National Park in far southwestern Southwest Province, Cameroon. It is a small shrub of extremely wet forest understory in fully and partly shaded areas at elevations of 120 m or less.

Pavetta grossissima is distinguished principally in having the coarsest reticulation of higher order leaf veins of all species of subgenus *Baconia.* It is so named because of this. Also, orange fruits are known otherwise only in *P. gabonica,* which does not have leaf vein reticulation as coarse or inflorescences as condensed as *P. grossissima.*

11. Pavetta hookeriana Hiern, Fl. Trop. Africa 3: 176. 1877. *Baconia montana* Hook. f., J. Proc. Linn. Soc., Bot. 7: 196. 1864. *Ixora hookeriana* (Hiern) Kuntze, Revis. Gen. Pl. 1: 287. 1891. TYPE: Cameroon. Southwest Province: Mt. Cameroon, ca. 2100 m, Dec. 1862 (fl & fr), *Mann 2166* (holotype, K).

Pavetta exellii Bremek., Repert. Spec. Nov. Regni Veg. 37: 73. 1934. TYPE: Equatorial Guinea. Bioko Island, Jan. 1933 (fl), *Exell 787* (holotype, BM).

KEY TO THE VARIETIES OF *PAVETTA HOOKERIANA* IN CAMEROON

1. Leaf veins glabrous, subglabrous, or rarely puberulent but not intermittently pubescent below ..... var. *hookeriana*
1. Leaf veins intermittently pubescent below (Fig. 12) ..... var. *pubinervata*

a. **Pavetta hookeriana** var. **hookeriana**

Shrubs or small trees to 10 m. Twiglets glabrous (or subglabrous in some plants from the Oku area), floriferous twiglets 3–21 cm. Leaves coriaceous or subcoriaceous, sometimes anisophyllous; blades glabrous, obovate to elliptical, 1.5–14.5 × 0.7–7 cm, veins glabrous to subglabrous or rarely puberulent above or below, apex acute to obtuse (less often rounded), acumen if present usually subequal in length and width, 1–9 × 1–9 mm; base cuneate (to sometimes attenuate), sometimes asymmetrical; midrib and secondary veins sometimes prominulous below, secondary veins (3–)5–14 each side, occasionally joined 2–10 mm from margin, otherwise eucamptodromous; pubescent tuft, crypt, pocket or pit domatia sometimes in branch vein angles of midrib and rarely of secondary veins, sometimes elongated several mm above branch vein angle; nodules absent to fairly numerous, most elongate and close to midrib; fourth and higher order venation seldom clearly visible, usually more visible below than above; venation density fine. Stipules cup-shaped, pubescent internally, glabrous (or at times subglabrous) externally, awn deciduous, linear to cuspidate, 1.5–5 mm. Inflorescences rotund to corymb-shaped in outline or with subunits of these shapes, 0.5–8 cm across, puberulent to glabrous, sessile, flowers 10–85(–150); sheathing bracts rectangular lobed to unlobed, then cup-(or less often saucer-)shaped, pubescent inside, glabrous to subglabrous outside, sometimes with fimbriae to 1.5 mm, linear awns 1–4 mm or foliar appendages 5–15 mm; foliar bracts if present 1–5 cm long or resembling slightly reduced foliage leaves; other bracts absent or linear to ovate or quarter-spherical, to ca. 3 mm, with or without 1–several fimbriae to 2 mm, or a fimbria or tuft of hairs borne from axis directly; bracteoles resembling smaller bracts sometimes present. Calyx tube 1–1.5 mm long, 1.5–2.5 mm wide halfway up; lobes valvate, rotund (or less often oblong, ovate, triangular, or pentagonal), 0.7–1.5(–3) × 1–2 mm, puberulent or subglabrous, sometimes carinate, often reflexed when dry, rim lighter. Corolla white or cream, tube sometimes green or lobes green tipped outside; tube usually cylindrical, 2–5 × 1–2(–4) mm; lobes 4–8 mm. Style clavate, puberulent or subglabrous, exserted 4–8 mm. Stigma sometimes conspicuously 2-lobed. Fruits ca. 8–10 mm across, glabrous or subglabrous, bluish green, later black. Mature seeds 1 or 2 (except one empty fruit seen), attached ca. halfway up septum, concave.

Additional specimens examined. CAMEROON. **Southwest Province:** Mt. Cameroon (fl bud), *Maitland 992* (B), (fl bud, fl & fr), *Maitland = TDM 1312* (B, K), Mar. (fl), *Boughey GC 7005* (K), *Deistel 77* (GH), *Onochie 9525* (BM, BR, P, identified also as *Brenan 9525*), *Swarbrick 2326* (YA), Apr. (fl), *Morton GC 6840* (K), *Thomas 4608* (MO); around crater of Manéngouba, Feb. (fl bud), *Thomas 3145* (MO). **West Province:** Dschang, Mt. Bamboutos, June (fr), *Saxer 97a, 97b* (K); Djuttitsa, Bamboutos, Nov. (vegetative), *Meurillon 496* (HBG), May (fr), *Meurillon 1281* (K); Babadjou, Mt. Santa, Dec. (fl bud, fl & fr), *Félix 2792* (HBG, K, P). **Northwest Province:** Santa, Mt. Santa, June (fr), *Saxer 12* (K); Bafut-Ngemba Forest Reserve near nursery, Apr. (fl bud), *Ujor FHI 30050* (K); Bafut-Ngemba Forest Reserve, NW face of

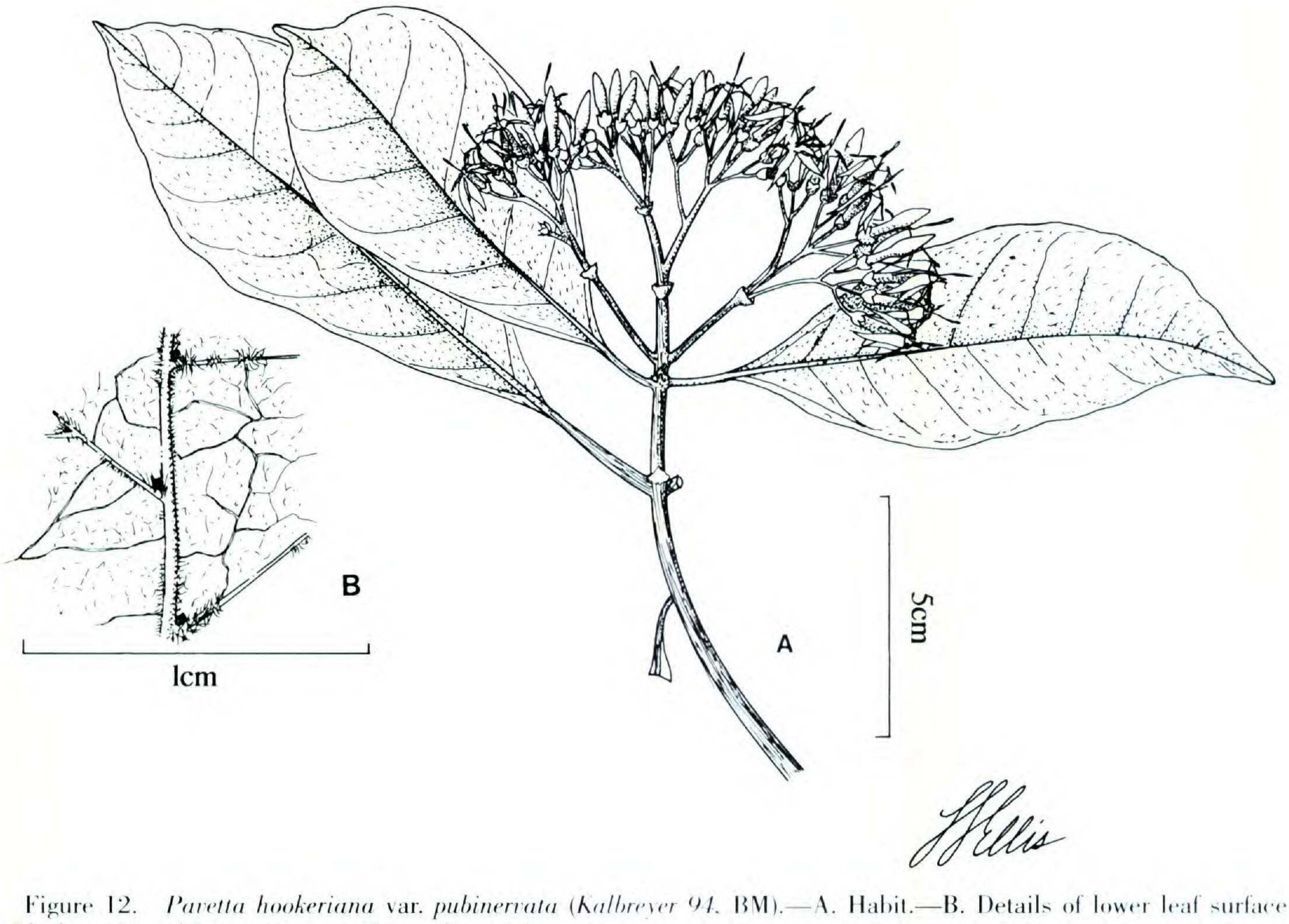


Figure 12. *Pavetta hookeriana* var. *pubinervata* (*Kalbreyer 94*, BM).—A. Habit.—B. Details of lower leaf surface with domatia and intermittent vestiture along veins.

Mbakakeka Mt., Feb. (fl), *Hepper 2160* (BR); Bafut-Ngemba Forest Reserve, road to Lake Bambuluwe, Mar. (fl), *Onochie FHI 34850* (K); Bafut-Ngemba Forest Reserve, foot path between Menda Nkwe and Awing, July (fr), *Manning 2177* (MO); 40 km NE of Bamenda, path from Acha Abaw to Lake Oku, Dec. (fl bud, fl & fr), *Letouzey 13448* (BR, YA); Oku area, June (fl), *Brunt 607* (K), Aug. (fl), *C.N.A.D. 1805* (P), July (fl), *Letouzey 8937* (P), Feb. (fl), *Thomas 4386* (MO), Apr. (fl), *Thomas & McLeod 6006* (MO).

b. Pavetta hookeriana var. **pubinervata** S. D. Manning, var. nov. TYPE: Cameroon. Southwest Province: Buea or Limbe, Mar. 1877 (fl), *Kalbreyer 94* (holotype, K, labeled "Cam. Victoria"; isotype, BM, labeled "Cam. Bonjango" = part of Buea, top of sheet only). Figure 12.

A varietate *hookeriana* foliis nervis subter interrupte pubescentibus differt.

Similar to variety *hookeriana* except leaf veins intermittently pubescent below.

Pavetta hookeriana var. *pubinervata* has larger leaves than most specimens of variety *hookeriana*, which usually has small leaves and light bark and often has many short internodes. Other features of variety *pubinervata* include some leaf blades ovate, some leaves with a few hairs above and below, fourth and higher order venation easily visible below, sheathing bracts sometimes deltoid lobed, peduncle absent or ca. 4 mm, calyx tube occasionally only 0.7 mm long or 1.2 mm wide halfway up, and calyx lobes occasionally as short as 0.5 mm.

Variety *pubinervata* is given varietal status mainly because of the sharp difference in leaf vestiture from any of the numerous collections of variety *hookeriana*; it is also geographically distinct.

Pavetta hookeriana is a montane species occurring at elevations of 1500–2800 m (var. *hookeriana*) or 500 m (var. *pubinervata*) in or at edges of forest. It is the only widespread high elevation species of subgenus *Baconia* in Cameroon. It occurs only on volcanoes, including Mt. Cameroon, Mt. Oku, and other mountains in Cameroon and the offshore islands Pagalu and Bioko of Equatorial Guinea. In Cameroon, this distribution includes locations in eastern Southwest Province, western West Province, and southern and central Northwest Province. Variety *pubinervata*, known only from the type, was collected on Mt. Cameroon.

Nodules are often more numerous on plants of this species from more northern locations than from elsewhere.

Some larger-leaved specimens of variety *hookeriana* (e.g., *Deistel 77* and *Onochie FHI 34850*)

look similar to *P. molundensis*, a species of lower elevations occurring further east. However, *P. molundensis* has more flowers per inflorescence, longer calyx lobes, and larger leaves. *Pavetta hookeriana* also superficially resembles high altitude specimens of *P. kupensis* but has much shorter styles and usually rotund to ovate, often reflexed calyx lobes longer than the usually somewhat compressed (Fig. 5) ones of *P. kupensis*.

Kalbreyer 94, the only specimen of variety *pubinervata*, is probably the same specimen referred to *Pavetta owariensis* as "*Kalbreyer 92*" by Hepper and Keay (1963) and referred to *Pavetta intermedia* Bremekamp as "*Kalkbreyer 92*" by Bremekamp (1934). The handwritten numeral interpreted as a "4" here, though ambiguous, is clearly different from a "2" in the same handwriting later on the same sheets.

12. Pavetta kribiensis S. D. Manning, sp. nov. TYPE: Cameroon. South Province: 25 km ENE of Campo, Mar. 1968 (fl bud & fl), *Letouzey 9148* (holotype, P; isotypes, BR, YA). Figure 13.

Frutices. Rami glabri. Folia glabra, nervis secundariis utroque 5–12. Inflorescentiae in ambitu rotundatae ad subcorymbosas, 0.5–2 cm latae, congestae, glabrae. Lobi calycini valvati (vel aliquando parum superpositi basi), rotundati, (vel interdum pentagonales, rotundato-compressi vel deltoidei), 0.2–1 × 0.7–1.5 mm. Corolla tubo 4–6 mm, lobis 4–7 mm, lobis interdum super tenuiter prope faucem puberulis.

Shrubs to 1 m. Twiglets glabrous, floriferous twiglets 1–19.5 cm. Leaves chartaceous or thinly subcoriaceous, glabrous, sometimes anisophyllous; blades oblong, obovate, elliptical (or less often ovate), 2.5–21.5 × 1–7.5 cm; apex obtuse to acute or rounded, often asymmetrical, acuminate, acumen usually abrupt, 1–27 × 1–9 mm; base attenuate to cuneate, sometimes asymmetrical; midrib and secondary veins often prominulous below especially toward base, secondary veins sometimes impressed above, 5–12 each side, sometimes joined 1–7 mm from margin; domatia, if present, usually pubescent pockets or tufts in most branch vein angles of midrib; nodules scattered on blade, rarely on midrib; fourth and higher order venation usually more obvious below; venation density medium. Stipules deltoid to rotund, pentagonal or attenuate lobed or truncate, glabrous; awn sometimes deciduous, cuspidate to linear, to ca. 10 mm. Inflorescences subumbellate, rotund to subcorymb-shaped in outline, 0.5–2 cm across, congested, glabrous, peduncle absent or to 10 mm; flowers (1–)5–40; sheathing bracts unlobed and cup- or bowl-shaped, truncate, or rotund, ovate or narrowly triangularly lobed, glabrous externally and internally, linear awns if present to 4 mm, foliar appendages 2–6 mm; foliar bracts if present resembling foliage leaves, sometimes reduced proportionately more in length than width; other bracts often obscured by sheathing bracts in congested inflorescences, ± ovate, 1–2 mm, without fimbriae but sometimes with a ± oblong, blunt pointed awn ca. 1 mm; bracteoles resembling smaller bracts or absent. Calyx tube 1–1.3 mm long, 1.5–2.5 mm wide halfway up; lobes valvate (or bases at times slightly overlapping), rotund (or less often pentagonal, compressed rotund (Fig. 5) or deltoid), 0.2–1 × 0.7–1.5 mm, glabrous, sometimes carinate, rim usually lighter. Corolla white or creamy white; tube usually broadened from base to apex, 4–6 × 1–3 mm; lobes 4–7 mm, sometimes thinly puberulent above near base. Style narrowly clavate to fusiform, puberulent to pubescent, exserted 4–8 mm. Young fruits dark green, ca. 9 mm across, glabrous, with persistent calyces. Seeds 2, attached ca. halfway up septum, concave.

Additional specimens examined. CAMEROON. **South Province:** 15–25 km SW of Zingui = ca. 45 km SSE of Kribi, Mar. (fl bud & fl), *Letouzey 9116* (BR, P); 12 km ENE of Kribi, Lolodorf road, May (fr), *Bos 4638* (WAG); 19 km ENE of Kribi, Lolodorf road, Mar. (fl), *Bos 4137* (WAG); 40 km ENE of Kribi, Lolodorf road, Jan. (fl), *Bos 6202* (WAG).

Pavetta kribiensis is endemic to western South Province, Cameroon. It occurs in wet forest, sometimes along streams.

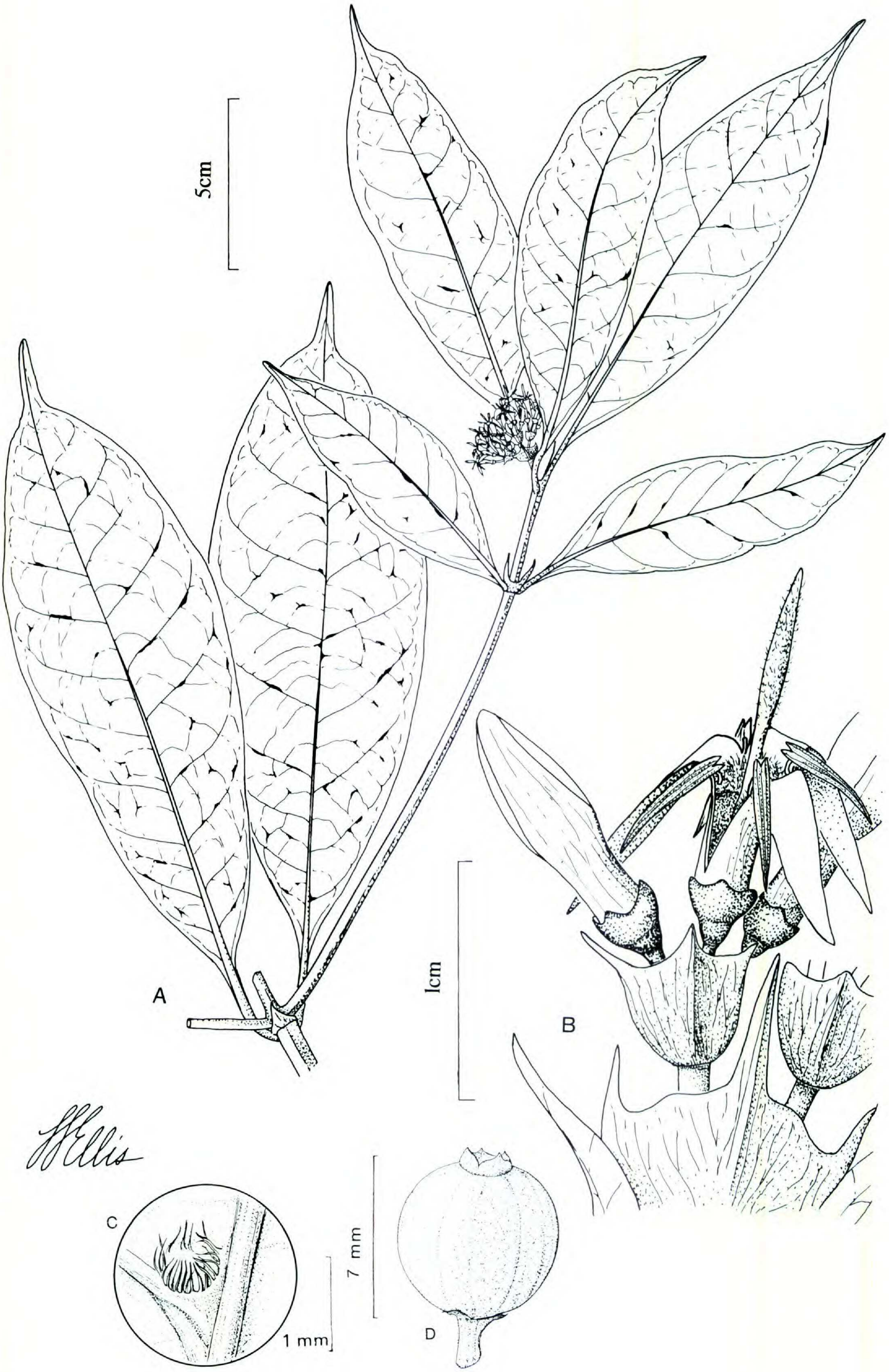
The distal, nonsheathing bracts of *Pavetta kribiensis* are unusual in sometimes having a more or less oblong, blunt-pointed awn rather than the thin fimbriae found in most species.

Pavetta kribiensis resembles *P. staudtii* vegetatively and in nodule patterns. It is distinct from *P. staudtii* in having rotund to deltoid calyx lobes rather than usually subquadrate (Fig. 5) ones, as well as in its more condensed inflorescences and nonfimbriate bracts.

13. Pavetta kupensis S. D. Manning, sp. nov. TYPE: Cameroon. Southwest Province: W side

→

Figure 13. *Pavetta kribiensis* (A, B, *Letouzey 9148*, P; C,D, *Bos 4638*, WAG).—A. Habit including bacterial nodules.—B. Part of inflorescence with open flower, bracts covering inflorescence branches for most of their lengths, awns on bracts.—C. Domatium on lower leaf surface.—D. Fruit.


5cm
A
lcm
B
C
1 mm
7 mm
D

of Mt. Kupe, Feb. 1986 (fl), *Thomas & McLeod 5481* (holotype, MO; isotypes, BR, K, P, WAG not seen, YA not seen). Figure 14.

Frutices. Folia laminis glabris, valde obovatis vel oblanceolatis (ad interdum ellipticas vel oblongas), apice obtuso ad rotundatum; nervis secundariis utroque 5–9; domatiis foveis vel cryptis interdum puberulis secus costam et interdum in angulis externis nervorum secundariorum et aliorum nervorum secundariorum vel tertiariorum (vel raro nullis); venulis utrinque obscuris. Inflorescentiae in ambitu subrotundatae ad corymbosas vel in monades subrotundatae ad corymbosas divisae, 2–9 cm latae. Lobi calycini valvati, triangularo-compressi ad rotundato-compressos (ad aliquando rotundatos vel non profunde 2-lobulatos), 0.1–1 × 1–2 mm, glabri ad subglabros. Corolla tubo (4–)6–8 mm longo, lobis 8–12 mm longis. Styli exserti 11–20 mm.

Shrubs to 4 m. Twiglets glabrous, floriferous twiglets 2–11 cm. Leaves coriaceous, glabrous, sometimes anisophyllous; blades strongly obovate or oblanceolate (to less often elliptical or oblong), 3–19 × 1–7.5 cm; apex obtuse to rounded, usually with acumen 3–10 × 2–8 mm; base cuneate to attenuate, often slightly asymmetrical; midrib prominulous below toward base; secondary veins 5–9 each side, joined 1–10 mm from margin, their connections often conspicuous to the naked eye; domatia usually crypts or pits along midrib and sometimes in external angles of branching secondary veins, sometimes puberulent; nodules few, scattered on blade and sometimes on midrib; fourth and higher order venation obscure, sometimes slightly more obvious above; venation density fine. Stipules deciduous, rotund lobed to unlobed and then saucer- or cup-shaped, pubescent internally, glabrous externally, with cuspidate, falcate awn ca. 1–3 × 1 mm. Inflorescences subrotund to corymb-shaped in outline or with subunits of these shapes, 2–9 cm across, glabrous or subglabrous, sessile, flowers 25–75; sheathing bracts triangular, rotund or compressed rotund lobed to unlobed and then saucer- or cup-shaped, pubescent internally, glabrous externally, with triangular, ovate, or linear awns 1–3 × 0.5–1 mm; other bracts linear, broadly ovate, obovate, or triangular, occasionally carinate, to 3 mm, sometimes with 1–several fimbriae 0.5–2 mm or fimbriae borne from axis directly; bracteoles resembling smaller bracts. Calyx tube 1–1.5 mm long, 2–2.5 mm wide halfway up; lobes valvate, short triangular to compressed rotund (or less often rotund), occasionally shallowly 2-lobulate, 0.1–1 × 1–2 mm, glabrous or subglabrous, sometimes carinate, rim not or narrowly lighter; corolla in bud greenish or white with green vertical stripes, in open flower greenish white; tube cylindrical or subcylindrical, (4–)6–8 × 1–2 mm; lobes 8–12 mm. Style narrowly clavate, puberulent, exserted 11–20 mm.

Additional specimens examined. CAMEROON. **Southwest Province:** between summits of Mt. Kupe, Nov. (fl bud), *Letouzey 450* (BR); Mungo River valley near Konye, 40 km N of Kumba, Dec. (fl bud), *Thomas & Nemba 5197* (MO).

Pavetta kupensis is endemic to Cameroon. It has been found only in forest on and approximately 30 km west of Mt. Kupe in eastern Southwest Province, at elevations from 300 to 2000 m. The lowland specimen has larger leaves than other collections.

The chief distinguishing features of *Pavetta kupensis* are that most leaves are usually strongly obovate and brochidodromous with apices never acute. Styles are exserted farther than in most species, but not as far as in *P. longistyla* S. D. Manning, which also has much longer calyx lobes and larger inflorescences than *P. kupensis* and lacks domatia. Comparisons to other species follow the descriptions of *P. brachycalyx* and *P. hookeriana.*

Collection of more material may reveal intermediates sufficient to combine *Pavetta kupensis* with one or more of its congeners. It is not obviously closer to any one of them than the others.

14. Pavetta lasioclada (K. Krause) Mildbraed ex Bremekamp, Repert. Spec. Nov. Regni Veg. 37: 62. 1934. *Chomelia lasioclada* K. Krause, Bot. Jahrb. Syst. 34: 136. 1909. TYPE: Togo. Sokode, 1904, *Kersting A56* (holotype, B destroyed). LECTOTYPE: Sierra Leone. Falaba, Mar. 1892 (fl bud), *Scott Elliot 5142* (lectotype, selected here, K; isolectotype, BM).

Pavetta baconia Hiern var. *hispida* Scott Elliot, J. Linn. Soc., Bot. 30: 83. 1895. TYPE: Sierra Leone. Near Falaba, Mar. 1892 (fl bud), *Scott Elliot 5412* (= *5142*, K, BM?).

Pavetta ledermannii K. Krause, Bot. Jahrb. Syst. 40: 419. 1913. TYPE: Cameroon. Adamaoua Province, probably: Pass Tchape, Mar. 1909 (fl), *Ledermann 2835* (B destroyed).

Pavetta viburnoides A. Chev., Explor. Bot. Afrique Occid. Franç. 1: 334. 1920. No holotype designated; specimens cited include one from French Sudan (1899) and eight from French Guinea (all 1905).

Pavetta tisserantii Bremek., Repert. Spec. Nov. Regni Veg. 37: 63. 1934. Syn. nov. TYPE: Central African Republic. Balaougu, 17 km N of Bambari, Mar. 1925 (fl), *Tisserant 1865* (P).

Shrubs or small trees to 5(–10) m. Twiglets pubescent especially finally, floriferous twiglets 6.5–26 cm. Leaves chartaceous (to less often coriaceous), sometimes anisophyllous; blades obovate to elliptic or ovate, 4.5–25 × 2–11 cm, pubescent

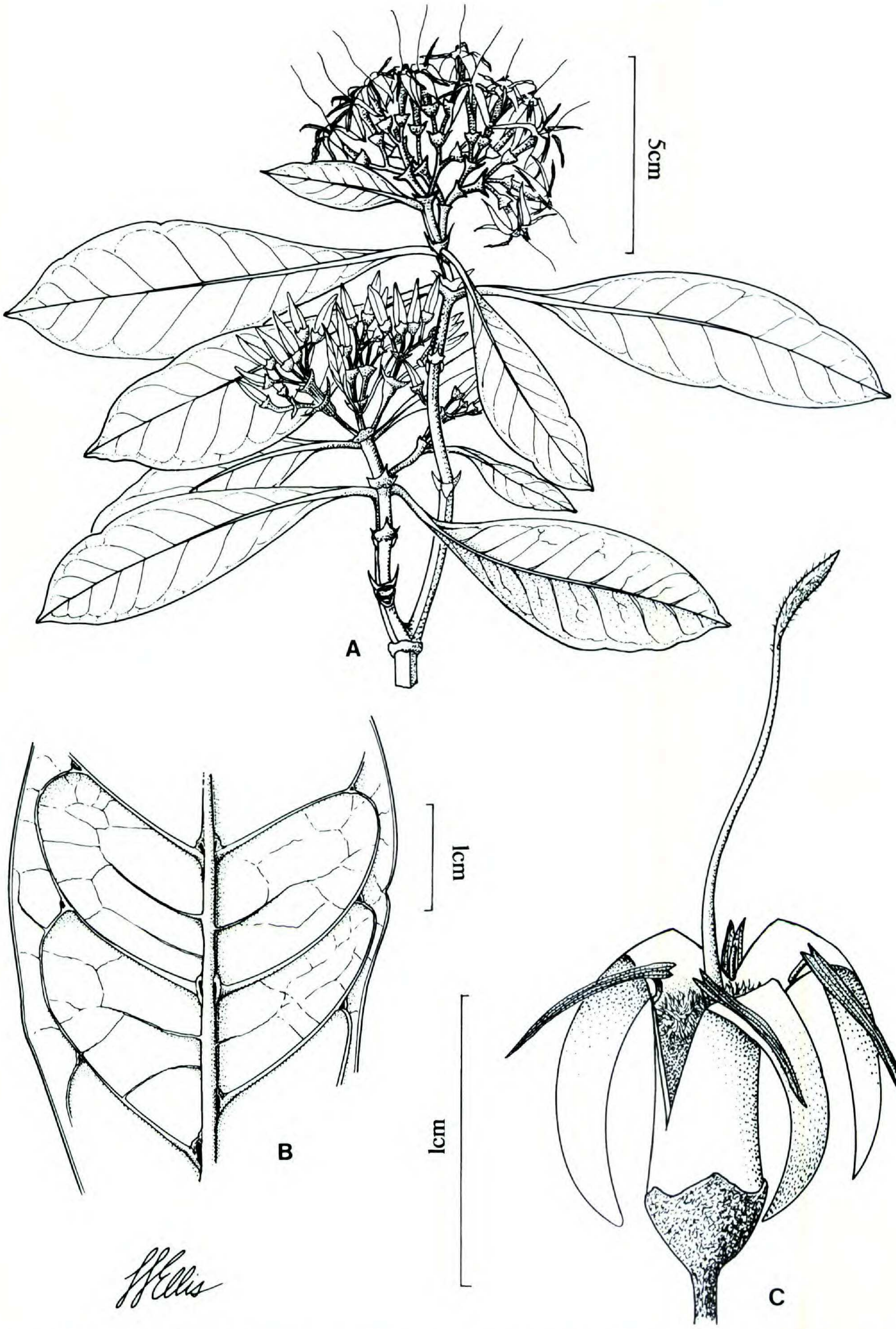


Figure 14. *Pavetta kupensis* (*Thomas & McLeod 5481*, MO).—A. Habit.—B. Details of lower leaf surface with conspicuous submarginal veins, obscure higher order venation, and domatia.—C. Flower.

below, less densely pubescent to subglabrous above, veins pubescent below, pubescent to puberulent above; apex acute to obtuse or rounded, acumen 2–15 × 2–13 mm (or less often absent); base cuneate to obtuse (or less often rounded or truncate), sometimes asymmetrical; midrib and secondary veins prominent or prominulous below, secondary veins 7–15 each side, sometimes joined 1–8 mm from margin; pocket domatia sometimes or tuft domatia rarely present in branch vein angles of midrib (or occasionally other veins); nodules uncommon, along midrib or scattered on blade; some tertiary veins prominent or prominulous below; fourth and higher order venation invisible to obvious; venation density medium to fine. Stipules cup-shaped, pubescent externally, glabrous or subglabrous internally; awn falcate or linear, 2–10 mm. Inflorescences rotund to pyramidal, subpyramidal or corymb-shaped in outline or with subunits of these shapes, 3–17 cm across, lax to congested, pubescent, peduncle absent or ca. 2 mm; flowers 20–200, fragrant; sheathing bracts rotund lobed or unlobed and cup- to saucer-shaped, pubescent externally, subglabrous internally, linear awns 2–7 mm, foliar appendages 7 mm; foliar bracts 1.5–5 cm or resembling slightly reduced foliage leaves, sometimes proportionally broader compared to length than foliage leaves; other bracts semicircular to ovate or deltoid, to ca. 5 mm, sometimes with fimbria ca. 2 mm or fimbriae borne from axis directly; bracteoles resembling reduced bracts sometimes present. Calyx tube 1–1.3 mm long, 2–2.3 mm wide halfway up; lobes valvate, long triangular or pentagonal to ovate, oblong or obovate, 1.5–4 × 1–2 mm, pubescent, not or slightly carinate, rim lighter. Corolla in bud white with green apex or grayish green, in open flower white sometimes quickly becoming rust; tube slightly broadened from base to apex, 4–7 × 1–2 mm; lobes 6–11 mm. Style clavate, puberulent to subglabrous, exserted 7–17 mm. Stigma sometimes 2-lobed, lobes to 1 mm. Ovules 4 in 2 locules with 2 ovules attached to a placenta ca. halfway up on each side of septum, or only 2 or 3 ovules developed. Fruits ca. 8 mm across, thinly pubescent or puberulent, green, pale green, whitish green, or glaucous green becoming brown or bluish black. Seeds 4 with 2 attached to a placenta ca. halfway up on each side of septum, or only 2 or 3 developed, concave.

Additional specimens examined. CAMEROON. **North Province:** Sokorta Manga, 40 km ENE of Bélel, Mar. (fl bud), *Fotius 3191* (YA). **Adamaoua Province:** 8 km S of Ngaoundéré, Oct. (fr), *Breteler 600* (BR, GH, P, WAG, YA); 17 km S of Meiganga, Nov. (fr), *de Wilde et al. 3953* (WAG); Mama, 40 km SE of Meiganga, Oct. (fr), *Letouzey 6104* (BR, YA); Boubala road, Tibati area, Dec. (fl bud & fr), *Letouzey 2551* (BR, YA). **Centre Province:** 15 km W of Méting, Matsari-Linté road, May (young fr), *Biholong 545* (P). **East Province:** 17 km E of Deng Deng, Jan. (fl), *Breteler 998* = *Letouzey 3328* (same collection) (BR, K, WAG, YA). CENTRAL AFRICAN REPUBLIC. Buala, labeled "Kamerun," 6°25′N, 15°30′E, June (young fr), *Mildbraed 9559* (K); Bosum Namgebiet, probably = Bozoum, labeled "Neu-Kamerun," Mar. (fl bud & fl), *Tessmann 2247* (K); Balaougu, 17 km N of Bambari, Mar. (fl), *Tisserant 1865* (P).

Of the species of subgenus *Baconia*, *Pavetta lasioclada* and *P. corymbosa* have the most northern and widest distributions. *Pavetta lasioclada* occurs west at least to Sierra Leone and east at least to Central African Republic in the Guineo-Congolian/Sudanian transition zone sensu White (1979). Most collections from Cameroon have been in Adamaoua Province, others in the southeastern corner of North Province and northern Centre and East Provinces. It occurs in gallery and young forest and forest borders in predominantly savanna areas. The North Province collection is the single known representative of subgenus *Baconia* from either North Province or Far North Province. *Pavetta lasioclada* has been reported from 650 to 1500 m elevations in Cameroon. Bozoum, presently in Central African Republic, was in "Neu-Kamerun" when *Tessmann 2247* was collected in 1914 (U.S. Office of Geography, 1962; Ade Ajayi & Crowder, 1985: Chapters 59 and 62, maps).

The most distinctive feature of *Pavetta lasioclada* is that its fruits often bear two seeds per locule. Other aids to recognition are that the midrib and secondary veins are usually impressed above and prominent below; tertiary veins are often prominent below, sometimes even more so than in *P. tenuissima* and *P. muiriana* S. D. Manning; plants are pubescent to puberulent on most parts, though stipules and sheathing bracts are glabrous or subglabrous inside; and inflorescences are large and flowers fragrant.

Pavetta lasioclada and *P. tisserantii* are here combined because the three differences used to separate them (degree of vestiture on lower side of leaves, number of secondary veins, and number of internodes of flowering shoots) are not reliable. Duplicates or single sheets of some individual collections (e.g., *Breteler 998* = *Letouzey 3328* and *Tessmann 2247*) show much of the range of variation encompassing both former species.

Scott Elliot's description of *Pavetta lasioclada* as *P. baconia* var. *hispida* is the earliest for the species. This was, however, 18 years after the first description of *P. baconia* by Hiern, including five varieties. None of the earlier varieties of *P. baconia*

belongs to *P. lasioclada*. Thus, *P. baconia* is not the correct name for this species. The specific epithet "*lasioclada*" (Krause, 1909) was the next attributed to this species after "*Pavetta baconia* var. *hispida*."

The lectotype chosen here was seen by Bremekamp (1934) along with the later destroyed holotype when he transferred this species from *Chomelia* to *Pavetta*. It is probably also the specimen Scott Elliot used in his original brief description, though he cited it as *5412* rather than *5142*—the locality and description fit.

15. Pavetta laxa S. D. Manning, sp. nov. TYPE: Cameroon. South Province: near Mékomo, 8 km SW of the confluence of Rivers Dja and Lobo, Mar. 1962 (fl bud & fl), *Letouzey 4581* (holotype, YA; isotype, P). Figure 15.

Frutex. Folia laminis super papillatis vel puberulis, subter glabris, nervis utrinque puberulis; apice acuto ad rotundatum; nervis secundariis utroque 6–14; nodulis rarissimis in laminis vel nullis. Inflorescentiae corymbosae vel in monades corymbosas divisae, 3–4 cm latae, laxae. Lobi calycini rotundati (ad interdum oblongos, obovatos vel ovatos apice rotundato), 1–1.5(–2) × 1 mm, pubescentes. Corolla tubo 2–3 mm, lobis 3 mm. Styli exserti 2–4 mm.

Shrubs ca. 5 m. Twiglets puberulent to subglabrous, floriferous twiglets 19–20 cm. Leaves chartaceous, blades papillate or minutely puberulent above, glabrous below, major veins puberulent or subglabrous above and below, top pair of leaves strongly anisophyllous; blades elliptical to obovate (or less often ovate, oblong, or rotund) or reduced to a vestige at the top node, 6–15.5 × 4.5–6.5 cm, often asymmetrical; apex acute to rounded with acumen 7–13 × 4–8 mm; base attenuate (to less often cuneate, cordate, or rounded); midrib and secondary veins prominulous below, secondary veins 6–14 each side, sometimes joined 1–5 mm from margin; domatial tufts of hair occasionally accompanied by pits in branch vein angles of midrib and secondary veins; nodules absent or on blade, very rare; fourth and higher order venation more obvious below than above; venation density medium to fine. Stipules sometimes deciduous, cup-shaped, pubescent internally, subglabrous externally, awn cuspidate, ca. 1–3 × 1 mm, falcate. Inflorescences corymb-shaped or with corymb-shaped subunits, 3–4 cm across, lax, pubescent to puberulent, sessile, flowers ca. 35; sheathing bracts unlobed and cup- to saucer-shaped or ovate lobed, short pubescent, awns ± linear, 0.5–1.5 mm; other bracts ovate, to 2 mm with 1–several fimbriae to 0.5 mm; bracteoles uncommon, resembling bract fimbriae borne from pedicel directly. Calyx tube 0.7–1 mm long, 1.2–1.8 mm wide halfway up; lobes valvate, rotund (or less often oblong, obovate, or ovate with obtuse apex), ca. 1–1.5(–2) × 1 mm, short pubescent, sometimes carinate, rim lighter. Corolla white; tube cylindrical or subcylindrical, 2–3 × 1 mm; lobes 3 mm. Style clavate, pubescent to subglabrous, exserted 2–4 mm. Stigma with 2 connivent lobes.

Pavetta laxa is known only from the type from South Province, south-central Cameroon near borders with East and Centre Provinces in a lowland, probably forested area.

The leaves of *Pavetta laxa* are similar to those of *P. longibrachiata* and *P. brachysiphon* (see discussion following the description of *P. brachysiphon*). In *P. laxa* the leaves are larger and less narrow than those of *P. brachysiphon*, however, and corollas are shorter and styles are shorter and exserted less than those of *P. longibrachiata*. *Pavetta laxa* has very small flowers except for calyx lobes larger than average in subgenus *Baconia*.

Pavetta laxa is so named for its very lax inflorescences.

16. Pavetta longibrachiata Bremekamp, Repert. Spec. Nov. Regni Veg. 37: 75. 1934. TYPE: Cameroon. West Province (probably): Ndonge, *Ledermann 6179* (holotype, B destroyed). LECTOTYPE: Cameroon. East Province: near Bangué, mouth of Bangué River, 3°N, 15°4'E, Feb. 1911 (fl bud), *Mildbraed 4505* (lectotype, selected here, HBG).

Shrubs to 5 m. Twiglets shortly puberulent to glabrous, floriferous twiglets 4–26 cm. Leaves chartaceous to subcoriaceous, sometimes anisophyllous, top pair sometimes extremely so or reduced to one leaf; blades elliptical to obovate, oblong (or less often ovate or rotund), sometimes asymmetrical, 3.5–22 × 1.5–7.5 cm, (occasionally puberulent or partly pubescent to) normally glabrous or upper surface appearing papillate, major veins puberulent below, puberulent to glabrous above; apex acute (to less often obtuse or rounded), sometimes asymmetrical, subacuminate or with acumen 3–15 × 2–10 mm; base cuneate (to less often attenuate, rounded or cordate), sometimes asymmetrical; midrib and sometimes secondary veins prominulous below, secondary veins 4–11(–14) each side, sometimes joined 1–6 mm from margin; domatial tufts, pockets or pits in branch vein angles of midrib and often along secondary veins; nodules absent or few, scattered on blade and sometimes on midrib; fourth and higher order venation usually more obvious below than above, occasionally obvious both above and

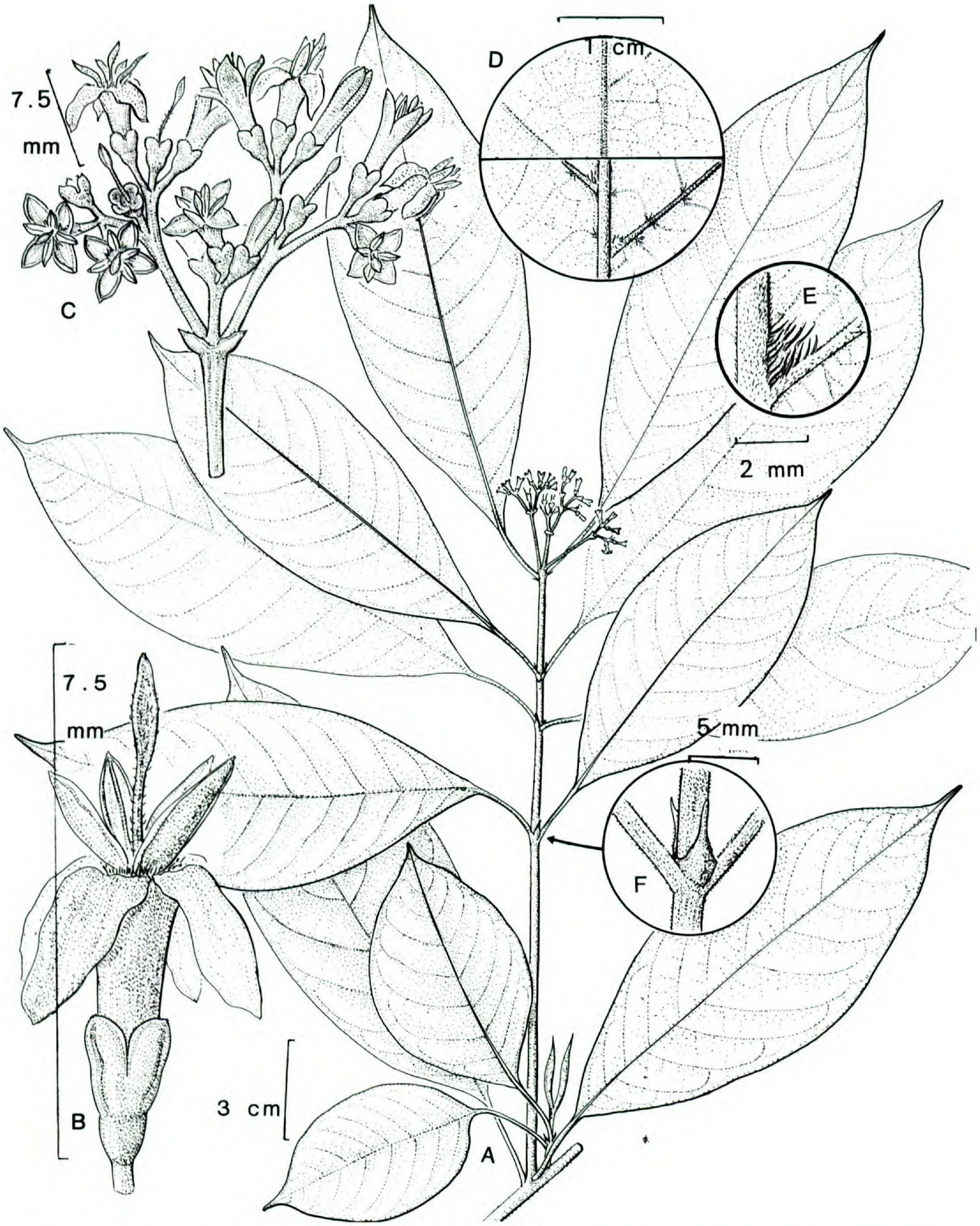


Figure 15. *Pavetta laxa* (*Letouzey 4581*, YA).—A. Habit.—B. Flower.—C. Inflorescence.—D. Leaf venation and vestiture: top half, upper surface; bottom half, lower surface.—E. Angle of secondary leaf vein below with tuft domatium.—F. Stipules.

below or neither above nor below; venation density medium to fine. Stipules cup-shaped, puberulent to subglabrous externally, pubescent to glabrous internally, awn sometimes deciduous, curved, linear or cuspidate, 1–3 × ≤1 mm. Inflorescences rotund to corymb-shaped in outline or with subunits of these shapes, 0.5–9 cm across, puberulent to subglabrous, peduncle to 45 mm or usually absent,

flowers 15–200; sheathing bracts unlobed and cup-, funnel-, (or less often saucer-)shaped or with rotund to ovate, irregular, or truncate lobes, puberulent or subglabrous externally, pubescent internally, sometimes with linear awns 0.5–5 mm, sometimes with foliar appendages 2–2.5 mm or ovate appendages 1.5–4 × 0.5–1 mm; foliar bracts usually absent, 2 mm to size and shape of normal foliage leaves if present; other bracts ± broadly obovate, to 4 mm, sometimes with 1–several fimbriae or with a ca. 1 mm awn, or fimbriae or tufts of hairs borne from axis directly; bracteoles resembling smaller bracts. Calyx tube 0.7–1 mm long, 1.2–2 mm wide halfway up; lobes valvate, triangular, ovate, oblong, pentagonal, rotund, or subquadrate, 0.5–2 × 1 mm, pubescent to subglabrous, usually carinate, sometimes concave, rim narrowly lighter. Corolla white with green apex in bud, white in open flower; most tubes broadened from base to apex, (2–)3–8 × 0.5–1.5 mm; lobes 3–9 mm. Style clavate, pubescent to subglabrous, exserted (2–)6–10 mm. Stigma ± 2-lobed. Fruits 7–8 mm across, subglabrous or glabrous, whitish green or ash gray. Mature seeds 2 or 1, attached ca. halfway up septum, broadly concave.

Additional specimens examined. CAMEROON. **East Province:** 14 km E of Dimako, Feb. (fl), *Leeuwenberg 7785* (BR, HBG, K, MO, P, WAG, YA); 10 km S of Ndemba, Mbang-Ndemba road, May (fr), *Breteler 1451* (BR, WAG). **South Province:** Bitye, River Dja, Nov. (fl bud), *Bates 1520* (BR, MO), Feb. (fl bud & fl), *Bates 1619* (BM, MO); Méyos-Méla, 32 km ENE of Djoum, Nov. (fr), *Letouzey 8324* (BR, P). **Centre Province:** 5 km W of Mbalmayo, Feb. (fl bud), *de Wilde & de Wilde-Duyfjes 1807* (BR, P, WAG); Yaoundé (fl bud), *Zenker 759* (K, S), and see Ivory Coast specimens listed below marked "origine Yaoundé"; foot of Mt. Ngoro, 38 km N of Bafia, Apr. (young fr), *Ngameni Kamga 79* (P); Guéré road E of Yoko, Feb. (fl bud), *Letouzey 3428* (YA). **Southwest Province:** NW side of Mt. Cameroon above Koto, Mar. (fl), *Thomas 4494* (MO). IVORY COAST. Centre de Recherches Agronomiques de Bingerville, near Bingerville, cultivated, origin Yaoundé, Cameroon, Feb. (fl), *Bodard 1353* (K), Feb. (young fr), *Bodard 1356* (K).

Pavetta longibrachiata is fairly widespread in the East Province and drier forested areas of Centre and South Provinces of Cameroon, and has also been found in the Southwest Province. Although endemic to Cameroon (except for cultivated plants) based on existing collections, it is predicted from its fairly wide distribution and undercollection of neighboring countries that it will be found also south and east of Cameroon.

Pavetta longibrachiata occurs in secondary and disturbed forest understory and new growth of savanna, mostly at 550–1000 m elevations. The cultivated specimens are less robust vegetatively and reproductively than most specimens from Cameroon; they represent a rare recorded attempt to cultivate a species of subgenus *Baconia*.

Pavetta longibrachiata is most similar to *P. laxa* and *P. brachysiphon*, based upon leaf morphology features discussed following the description of *P. brachysiphon*, and is compared with those species following their descriptions. It can be distinguished from *P. cellulosa*, which it also resembles, in having nonseptate anthers, and from *P. owariensis* by its papillate or rarely pubescent upper leaf surfaces, vestiture on twiglets and stipule exteriors, and usually smaller flowers.

No duplicates of the original holotype, *Ledermann 6179* (B), have been found. Two paratypes, *Waibel 169* (B) and *Mildbraed 4505* (B), have also been destroyed; *Mildbraed 4505* (HBG) is here selected as lectotype.

17. Pavetta longistyla S. D. Manning, sp. nov. TYPE: Cameroon. West Province (probably): "route des Mbos," probably near Dschang, Mar. 1967 (fl), *Meurillon 645* (holotype, P; isotype, BR). Figure 16.

Frutex. Rami glabri. Folia glabra, apice rotundato ad obtusum, nervis secundariis utroque 5–8, domatiis nullis. Inflorescentiae in ambitu rotundatae ad subcorymbosas, 9–13 cm latae. Lobi calycini pentagonales ad ovatos vel triangularos, 1.5–3 × (0.7–)1–2 mm. Corolla tubo 6–10 mm, lobis 9–14 mm. Styli exserti 20–30 mm.

Shrubs. Twiglets glabrous, floriferous twiglets 15–18 cm and probably longer. Leaves chartaceous to subcoriaceous, glabrous, not anisophyllous; blades obovate (to less often elliptical), 5.5–19 × 2–9.5 cm; apex rounded to obtuse with acumen 2–15 × 2–12 mm; base cuneate to attenuate, sometimes asymmetrical; midrib prominulous below near base, secondary veins 5–8 each side, sometimes joined 2–9 mm from margin; domatia absent; nodules absent or along origins of some branch veins along midrib (and less often secondary veins) or in branch vein angles of midrib, fourth and higher order venation usually slightly more easily visible above but obscure on both sides; venation density medium. Stipules deciduous, cup-shaped, pubescent internally near base, glabrous externally; awn cuspidate to linear, sometimes falcate, 2–5 mm. Inflorescences rotund to subcorymb-shaped in outline, 9–13 cm across, subglabrous distally, glabrous proximally, sessile, flowers 40–60; sheathing bracts sometimes deciduous, at least sometimes rotund lobed, pubescent internally, subglabrous externally, sometimes with linear awns or foliar appendages to 3 mm; foliar bracts if present 10–25 mm; other bracts ovate, 1–3 mm, sometimes with

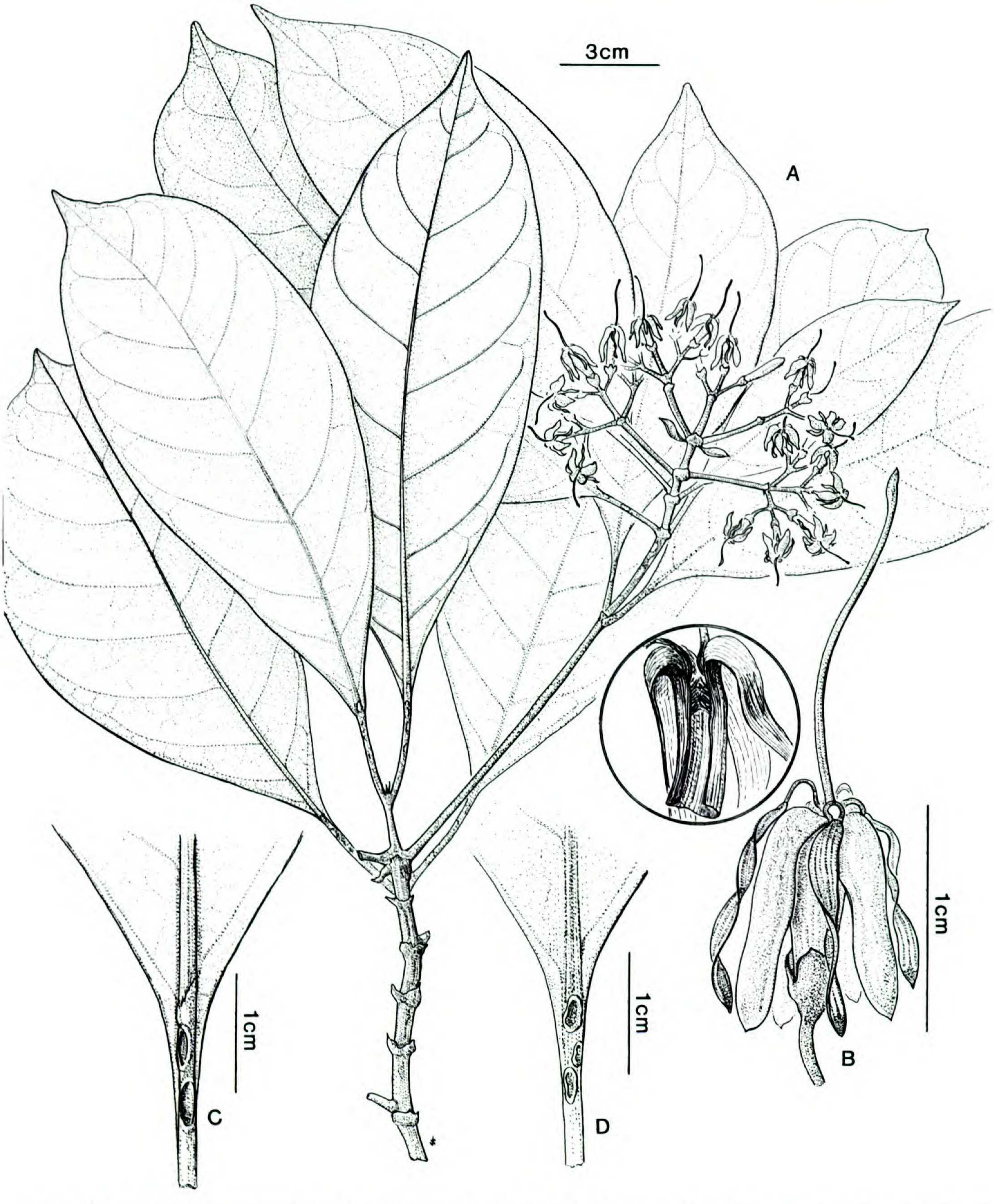


Figure 16. *Pavetta longistyla* (*Meurillon 645*, P).—A. Habit.—B. Flower and corolla opened to show beard.—C and D. Leaf bases with obscure higher order venation and lack of domatia.

several fimbriae to 2 mm, often absent at upper nodes of inflorescences; bracteoles absent. Calyx tube 1.5–2 mm long, 2–3 mm wide halfway up; lobes valvate, deltoid to pentagonal, rotund (or less commonly oblong, obovate, or ovate), 1.5–3 × (0.7–) 1–2 mm, subglabrous to glabrous, usually carinate, rim lighter. Corolla white, subcylindrical or cylindrical, tube 6–10 × 2–3 mm; lobes 9–14 mm. Style narrowly clavate, puberulent, exserted 20–30 mm. Ovules in open flower 2, white, ± ovoid, apparently attached ca. halfway up septum.

Pavetta longistyla is known only from the type collected near the western boundary of West Prov-

ince, Cameroon, in forest beside a stream at an altitude of 1100 m.

Pavetta longistyla resembles taxa of subgenus *Pavetta* in that it lacks bracteoles and its style-pollen presenters are exserted 20–30 mm, further than in any other species of subgenus *Baconia* in Cameroon. Its bearded corolla throat places it in subgenus *Baconia*, however.

Most leaves are broadly obovate and, as in *Pavetta kupensis*, leaf apices are obtuse or rounded, never acute as in most species. *Pavetta longistyla*'s large, lax inflorescences, lack of domatia, and less strongly brochidodromous venation distinguish it from *P. kupensis*. It resembles *P. mollissima* Hutch. & Dalziel, a western African species, vegetatively but is distinct from it in having less vestiture, larger flowers, and laxer inflorescences. It resembles *P. viridiloba* K. Krause and *P. molundensis* in inflorescence shape but can be distinguished from *P. viridiloba* by its smaller, usually obovate leaves and lack of vestiture and from *P. molundensis* by its larger, fewer-flowered inflorescences and obscure leaf venation.

18. Pavetta molundensis K. Krause, Bot. Jahrb. Syst. 57: 39. 1922. TYPE: Cameroon. East Province: ca. 15°22′E, 3°27′N, Bundi, formerly in Bezirk Molundu, near Yokadouma and Ngola, Mar. 1911 (fl bud), *Mildbraed 4673* (holotype, B: reported as *Mildbraed 6473*, presumably in error, destroyed; lectotype, selected here, HBG).

Pavetta insignis Bremek., Repert. Spec. Nov. Regni Veg. 37: 65. 1934. SYNTYPES: Uganda. *E. Brown 217* (K); *Mildbraed 2456* (B destroyed).

Shrubs to 6 m. Twiglets glabrous, floriferous twiglets 3–27 cm. Leaves coriaceous or subcoriaceous, sometimes anisophyllous; blades elliptical to obovate (or less often oblong or ovate), 3–30 × 1–12 cm, sometimes asymmetrical, glabrous (or blades at times subglabrous below); apex acute (or less often obtuse), sometimes asymmetrical, subacuminate or with acumen 5–15 × 4–10 mm; base cuneate to attenuate; midrib prominulous below toward base, secondary veins 6–11 each side, eucamptodromous; domatia absent or small pits, crypts, or pockets present in some branch vein angles of midrib and less often of secondary veins; nodules absent; fourth and higher order venation ± equally obvious above and below; venation density fine. Stipules usually deciduous, cup- or saucer-shaped, pubescent internally, glabrous or subglabrous externally, awn linear, ca. 1 mm. Inflorescences ± pyramidal, corymb-shaped or rotund in outline, 3–9 cm across, pubescent to puberulent distally, glabrous to puberulent proximally, sessile, flowers 100–350; sheathing bracts cup- or saucer-shaped or ovate lobed, pubescent internally, glabrous to puberulent externally, with 1–several linear awns to 3 mm or foliar appendages 2–5 mm; foliar bracts if present 1.5 cm or resembling less reduced foliage leaves; other bracts ovate, linear (or at times subquadrate or rotund), to 3 mm, sometimes with 1–several fimbriae to 1 mm or rarely an awn ca. 2 mm, or fimbriae borne from axis directly; bracteoles resembling smaller bracts sometimes present. Calyx tube 0.7–1.8 mm long, 2–3 mm wide halfway up; lobes valvate (or less often bases slightly overlapping), rotund (to less often oblong, ovate, obovate, long-pentagonal, deltoid, subquadrate, or occasionally 2-lobulate owing to either an emarginate apex or a cleft near base), 1–3 × 1–2 mm, pubescent, not or inconspicuously carinate, rim usually lighter. Corolla white; tube subcylindrical or cylindrical, 3–5(–8) × 1.5–2(–3) mm, lobes (5–)7–8(–11) mm. Style clavate, glabrous or subglabrous, exserted (5–)8–12 mm. Fruits 7–10 mm across, subglabrous, blue-gray or whitish. Seeds 2, attached ca. ⅔ of the way up septum, concave.

Additional specimens examined. CAMEROON. **East Province:** 5 km E of Bertoua, Dec. (fl), *Breteler 833* (BR, GH, P, WAG, YA); 50 km from Bertoua toward Abdumadjali, Dec. (fl bud and fl), *Nana 464* (BR, P, YA); 75 km N of Bertoua toward Deng Deng, Dec. (fl bud), *Nana 386* (BR, P, YA); near Deng Deng, Oct. (fr), *Nana 302* (BR, P, YA); near confluence of Lom and Djérem Rivers, ca. 250 km NE of Yaoundé, Mar. (fl bud and fl), *Mildbraed 8616* (K).

Most of the range of *Pavetta molundensis* is further east and south than Cameroon, including Sudan, Zaïre, Uganda, Tanzania (Bridson, 1978; Bridson & Verdcourt, 1988) and Central African Republic (Bridson, pers. comm.). It is thus centered in the Congolian centre of specific endemism sensu White (1979). In Cameroon it has been collected only in East Province. It grows in closed and open forest and savanna, including on pebbly soil and on laterite.

Pavetta molundensis is similar to *P. calothyrsa* and *P. robusta* except in typical calyx lobe shapes and in that it lacks bacterial nodules. Aids in recognizing *P. molundensis* are corolla lobes averaging much longer than corolla tubes and fruits with seeds attached ca. two-thirds rather than halfway up the septum. It is glabrous or nearly so vegetatively, except for stipule interiors. Vestiture is present on inflorescences, however, increasingly so toward the apex, culminating in pubescent calyx

lobes. Several collections of *P. molundensis* have dried nearly black.

Pavetta hookeriana and *P. molundensis* are compared following the description of *P. hookeriana.*

The original description of *Pavetta molundensis* lists the type as *Mildbraed 6473* rather than *4673.* However, locality and habitat data, date, and features of *4673* match those of the description. That description is referred to on the HBG isotype of *Mildbraed 4673* selected here as lectotype.

19. Pavetta mpomii S. D. Manning, sp. nov. TYPE: Cameroon. South Province: Nkolemenlong hill W of Ebianemeyong, near Nyabéssan, 60 km E of Campo, Apr. 1970 (fl bud & fl), *Letouzey 10341* (holotype, P; isotypes, BR, YA). Figure 17.

Frutices. Folia laminis super parce pubescentibus, subter glabris vel parce pubescentibus, nervis utrinque pubescentibus vel puberulis, nervis secundariis utroque 4–13. Inflorescentiae in ambitu corymbosae ad rotundatas, 3–7(–12) cm latae, pubescentes, floribus 20–125. Lobi calycini valvati vel superpositi basi, ovati (vel interdum oblongi, pentagonales, rotundati vel triangulares), 1.2–3 × 1–2 mm, pubescentes. Corolla tubo 5–8 mm, lobis 8–13 mm. Styli exserti 9–11 mm.

Shrubs to 2 m. Twiglets pubescent, floriferous twiglets 5.5–19.5 cm. Leaves chartaceous to subcoriaceous, veins pubescent or puberulent above and below, blades thinly pubescent above, glabrous or thinly pubescent below, sometimes anisophyllous; blades obovate to elliptical, oblong (or less often ovate), 3–22 × 1–9 cm; apex acute (to less often obtuse), usually with acumen 5–20 × 3–10 mm; base cuneate to obtuse (or less often attenuate or rounded), often asymmetrical; midrib prominulous or prominent below especially near base, secondary veins prominulous below, 4–13 each side, eucamptodromous (or less often brochidodromous); domatia absent or tuft or hairy pocket domatia in some branch vein angles of midrib; nodules if present few, on midrib or secondary veins (or occasionally scattered on blade); fourth and higher order venation more obvious below but often obscure below also; venation density fine. Stipules unlobed and cup-shaped (or less often compressed rotund lobed), pubescent internally and externally, awn cuspidate (or less often linear), (1–)3–7 mm. Inflorescences corymb-shaped to rotund in outline, 3–7(–12) cm across, pubescent, sessile or with peduncle to 4 mm, flowers 20–125; sheathing bracts compressed rotund lobed or unlobed and bowl-shaped, pubescent, sometimes with foliar appendages 1–4 mm long or linear awns 1–2 mm long; foliar bracts often present; other bracts linear, ovate or obovate, 0.5–1(–3) mm, sometimes with 1–several fimbriae ca. 1 mm or fimbriae or tufts of hairs borne from axis directly; bracteoles resembling smaller bracts. Calyx tube 0.5–1.5 mm long, 1.2–2 mm wide halfway up; lobes valvate or bases overlapping, ovate (to less often oblong, pentagonal, rotund, or triangular), 1.2–3 × 1–2 mm, pubescent, sometimes carinate, rim lighter. Corolla white; tube widened from base to throat, 5–8 × 1–3 mm; lobes 8–13 mm. Style narrowly clavate, thinly pubescent to subglabrous, exserted 9–11 mm. Stigma occasionally visibly 2-lobed, lobes ca. 0.25 mm. Prefruiting ovules 2, ± reniform, attached ca. halfway up septum.

Additional specimens examined. CAMEROON. **South Province:** 10 km ESE of Campo, Mar. (fl bud), *Letouzey 9209* (P); SE slopes of Mt. Éléphant est. 10 km SE of Kribi, Feb. (fl), *Bos 6419* (WAG); Bipindi (fl), *Zenker 4569* (BM, K, MO); Lolodorf (fl), *Staudt 27* (S).

Pavetta mpomii is endemic to western South Province, Cameroon, a high rainfall area. The only elevation reported is 200 m, on a slope of Mt. Éléphant.

Pavetta mpomii is similar to *P. viridiloba* and the more southern *P. puberula* Hiern. Inconspicuous tertiary leaf venation and green calyx lobes on dry specimens characterize *P. mpomii* and *P. viridiloba* and distinguish them from *P. lasioclada* and *P. namatae* S. D. Manning.

Vestiture in *Pavetta mpomii* is less than that of *P. viridiloba,* coming closer to *P. puberula* in that respect. Leaves and inflorescences are usually smaller than in either of the other two species. Calyx lobes of *P. mpomii* are intermediate in shape. These three species are further compared following the description of *P. viridiloba.*

Pavetta mpomii is named in honor of M. M. Benoit Mpom, formerly of the National Herbarium of Cameroon, Yaoundé.

20. Pavetta muiriana S. D. Manning, sp. nov. TYPE: Cameroon. Southwest Province: Bakossi Mountains W of Bangem, Jan. 1986 (fl bud & fl), *Thomas & Mcleod 5303* (holotype, MO; isotypes, BR, FHI not seen, K, P, PRE not seen, WAG not seen). Figure 18.

Frutices. Folia costa et nervis secundariis subter prominentibus, saltem versus bases, nervis secundariis utroque (8–)11–16; domatiis nullis; nodulis nullis vel secus costam et raro nervos secundarios, inconspicuis ob pubescentiam; venis tertiariis subter prominentibus. Inflorescentiae (1–)2–4 cm latae, ± laxae, pubescentes. Lobi calycini deltoidei (ad interdum rotundato-compressi, rotundati vel breviter triangulares), 0.2–1 × 0.5–1 mm, pubescentes. Corolla tubo 3–5 mm; lobis 4–6 mm, lobis su-

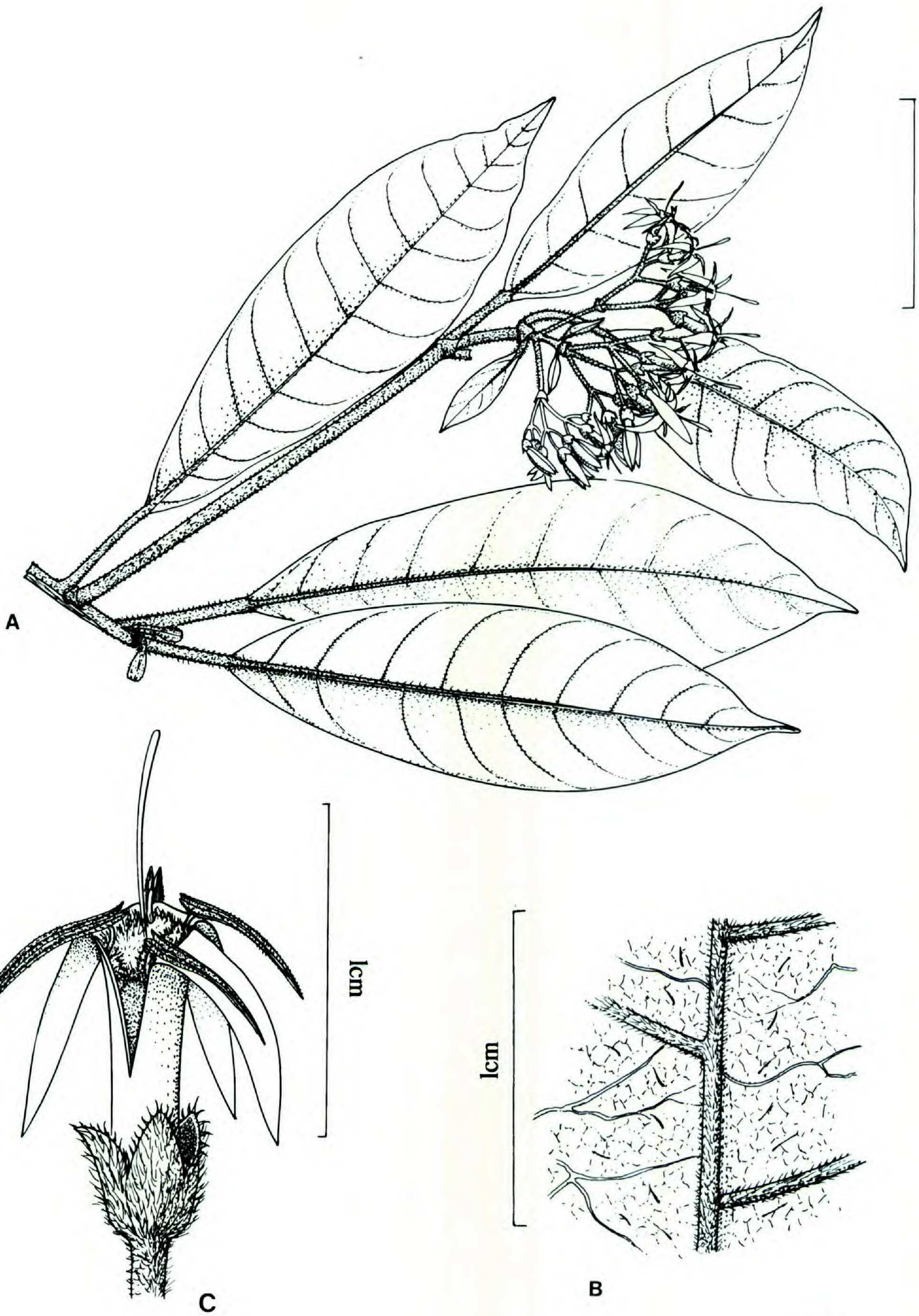


Figure 17. *Pavetta mpomii* (*Letouzey 10341*, P).—A. Habit.—B. Lower leaf surface with vestiture both on veins and lamina.—C. Flower.

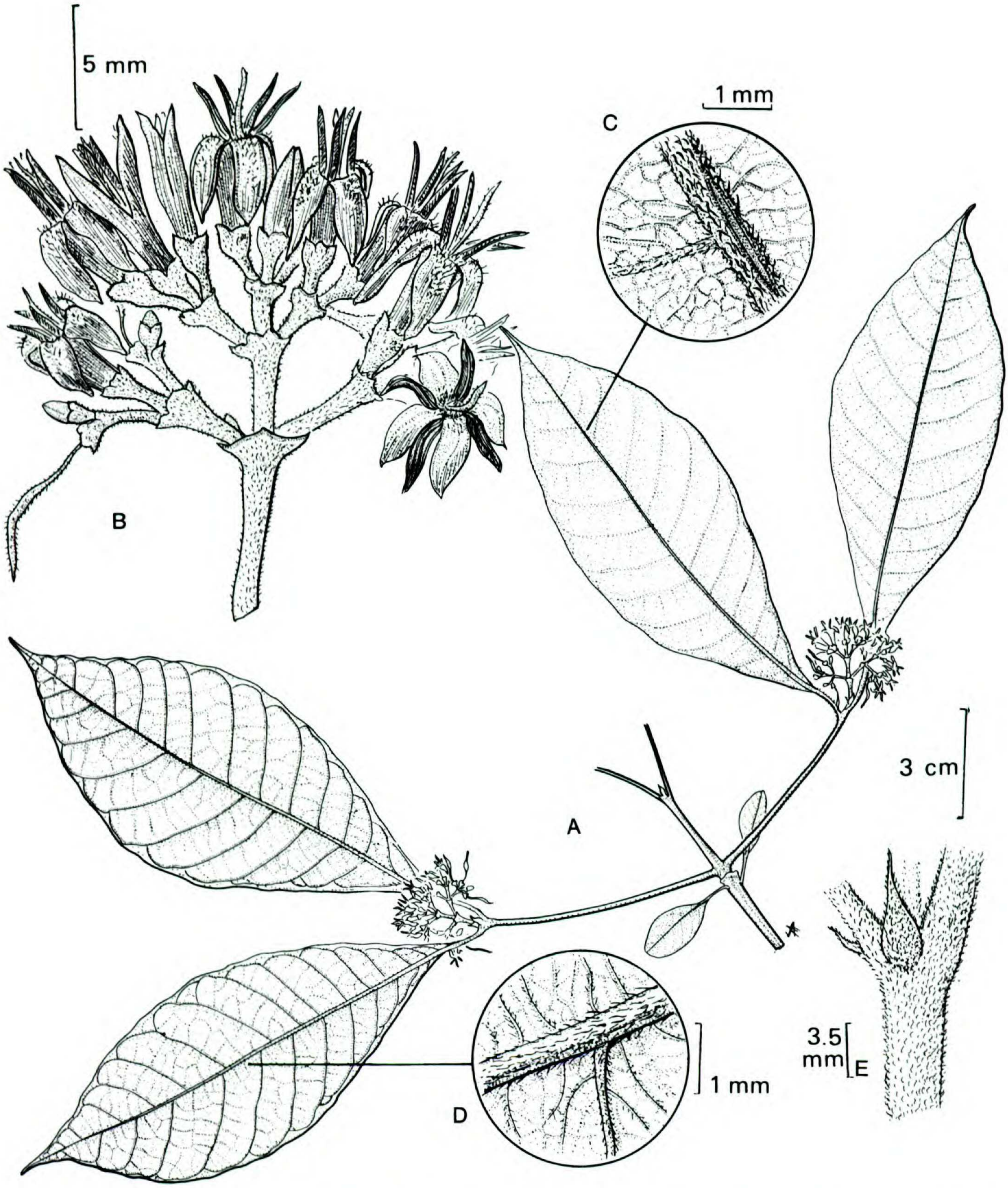


Figure 18. *Pavetta muiriana* (*Thomas 5449*, MO).—A. Habit.—B. Inflorescence.—C. Part of upper leaf surface with bacterial nodule along midrib.—D. Part of lower leaf surface.—E. Stipule.

per prope faucem pubescentibus. Anthera atra, albo-vittata. Styli exserti 3–6 mm.

Shrubs to 2 m. Twiglets pubescent, floriferous twiglets 5.5–10.5 cm. Leaves chartaceous, not anisophyllous; blades elliptic to obovate (or less often oblong), (1–)7–18 × (1–)3–8 cm, blades glabrous, major veins pubescent to subglabrous; apex acute, usually with acumen 8–13 × 2–6 mm; base cuneate to obtuse, often asymmetrical; midrib and secondary veins prominent below at least toward base, secondary veins (8–)11–16 each side, joined 1–5 mm from margin; domatia absent; nodules absent or along midrib and rarely secondary veins, inconspicuous because of vestiture; tertiary veins prominent below; fourth and higher order venation obvious, usually slightly more so above; venation density fine to very fine. Stipules deciduous, puberulent internally and externally, ± compressed

rotund lobed, awn linear, sometimes falcate, 2–5 mm or probably longer. Inflorescences pyramidal to subrotund or irregular in outline, (1–)2–4 cm across, ± lax, pubescent, sessile, not subumbellate, flowers 20–35; sheathing bracts ovate lobed or unlobed, then bowl- or saucer-shaped, pubescent externally, glabrous to pubescent internally; awns linear, 2–9 (or less often <2) mm; other bracts broadly to narrowly ovate, 0.5–2 mm, usually not fimbriate, rarely with several fimbriae to ca. 0.5 mm; bracteoles resembling smaller bracts. Calyx tube 0.5–1 mm long, 1.5–2 mm wide halfway up; lobes valvate, deltoid, subdeltoid (or less often compressed rotund, rotund, or short triangular), 0.2–1 × 0.5–1 mm, pubescent, sometimes carinate, rim not or narrowly lighter, vestiture of margins appearing lighter. Corolla white or yellow, tube cylindrical, broadened from base to throat (or less often obovate in outline), 3–5 × 1–2 mm, lobes 4–6 mm, pubescent above near throat. Anthers drying black with white stripes. Style clavate, puberulent to pubescent, exserted 3–6 mm. Prefruiting ovules 2, ± reniform, attached ca. halfway up septum.

Additional specimen examined. CAMEROON. **Southwest Province:** Lake Barombi Mbo, Kumba, Jan. (fl), *Thomas 5449* (MO).

Pavetta muiriana is known from the eastern half of Southwest Province, Cameroon. Its two collection localities are separated by ca. 100 km. One is near a volcanic crater lake at an elevation of ca. 300 m, the other is on a hillside at 1500 m. The higher elevation collection had yellow corollas, the lower had white ones.

Pavetta muiriana is compared to *P. tenuissima*, a related species, following the description of the latter.

The inflorescences and anthers (black with white stripes in open flower on herbarium sheets) of *Pavetta muiriana* resemble those of *P. neurocarpa* Bentham. Corollas of *P. muiriana* are similar to those of *P. camerounensis*, *P. rubentifolia*, *P. neurocarpa*, *P. urophylla*, and *P. tenuissima* and differ from other species in being pubescent on the upper side of lobes near throats. Nonsheathing bracts of *P. muiriana* are similar to those of *P. kribiensis*, *P. neurocarpa*, *P. tenuissima*, and *P. urophylla* and differ from other species in usually lacking fimbriae such as those in Figure 4.

Pavetta muiriana is named in honor of William Muir, former professor at Carleton College, Northfield, Minnesota, U.S.A., who developed the author's interest in botany while he was an undergraduate student, and his wife, Elizabeth, for her outstanding support of his work.

21. Pavetta namatae S. D. Manning, sp. nov. TYPE: Cameroon. Unknown location: Mar. 1918 (fl), *Gocker 18* (holotype, MO; isotype, US). Figure 19.

Frutex. Folia nervis secundariis utroque (5–)10–15; venis tertiariis interdum subter prominulis. Inflorescentiae in ambitu corymbosae ad subrotundatas vel in monades corymbosas vel subcorymbosas divisae, 6–11 cm latae, plus minusve laxae. Lobi calycini valvati, rotundati (ad interdum pentagonales, ovatos vel triangulares), 0.5–1 × 0.5–1 mm. Corolla tubo 5–7 mm, lobis 6–7 mm. Styli exserti 8–12 mm.

Shrubs ca. 6 m. Twiglets glabrous, floriferous twiglets 7–12 cm. Leaves chartaceous to coriaceous, blades and veins glabrous above, glabrous to puberulent with minute hairs below, sometimes anisophyllous; blades obovate to elliptical, 4–21 × 1.5–8 cm; apex acute to obtuse, often asymmetrical, usually with acumen 3–20 × 2–10 mm; base cuneate to attenuate, sometimes asymmetrical; midrib prominent and secondary veins prominent or prominulous below, major veins sometimes impressed above, secondary veins (5–)10–15 each side, usually joined 2–10 mm from margin; domatia present as hairy pockets in some or all branch vein angles of midrib, secondary and sometimes tertiary veins; nodules scattered on blades; tertiary veins sometimes prominulous below; fourth and higher order venation more obvious below than above; venation density fine to very fine. Stipules sometimes deciduous, shallowly cup- to saucer-shaped, pubescent internally, glabrous (to occasionally puberulent) externally, awn cuspidate, 3–5 × 1 mm, ± falcate. Inflorescences corymb-shaped to subrotund in outline or with corymb-shaped or subcorymb-shaped subunits, 6–11 cm across, sometimes ± lax, subglabrous to glabrous, peduncle absent or to 3 mm; flowers 40–200; sheathing bracts unlobed and cup- or bowl-shaped or obovate to compressed rotund lobed, pubescent internally, glabrous or subglabrous externally, usually with awns or other appendages, occasionally with fimbriae; awns ± linear, 1–2 mm; other appendages foliar, 1–5 mm or ovate, ca. 3 × 0.5–0.8 mm; fimbriae to ca. 1 mm; foliar bracts if present ca. 6 mm or resembling foliage leaves; other bracts obovate, subquadrate, linear or ovate, to 2 mm, sometimes with 1–several fimbriae to 1 mm or fimbriae borne from axis directly; bracteoles resembling smaller bracts. Calyx tube 0.7–1 mm long, 1.5–2 mm wide halfway up; lobes valvate, rotund (or less often pentagonal, ovate, or triangular), 0.5–1 × 0.5–1 mm, puberulent to subglabrous, usually carinate, rim lighter. Corolla tube constricted near base, broadened from constriction to throat, 5–7 × 0.5–1.5 mm; lobes 6–

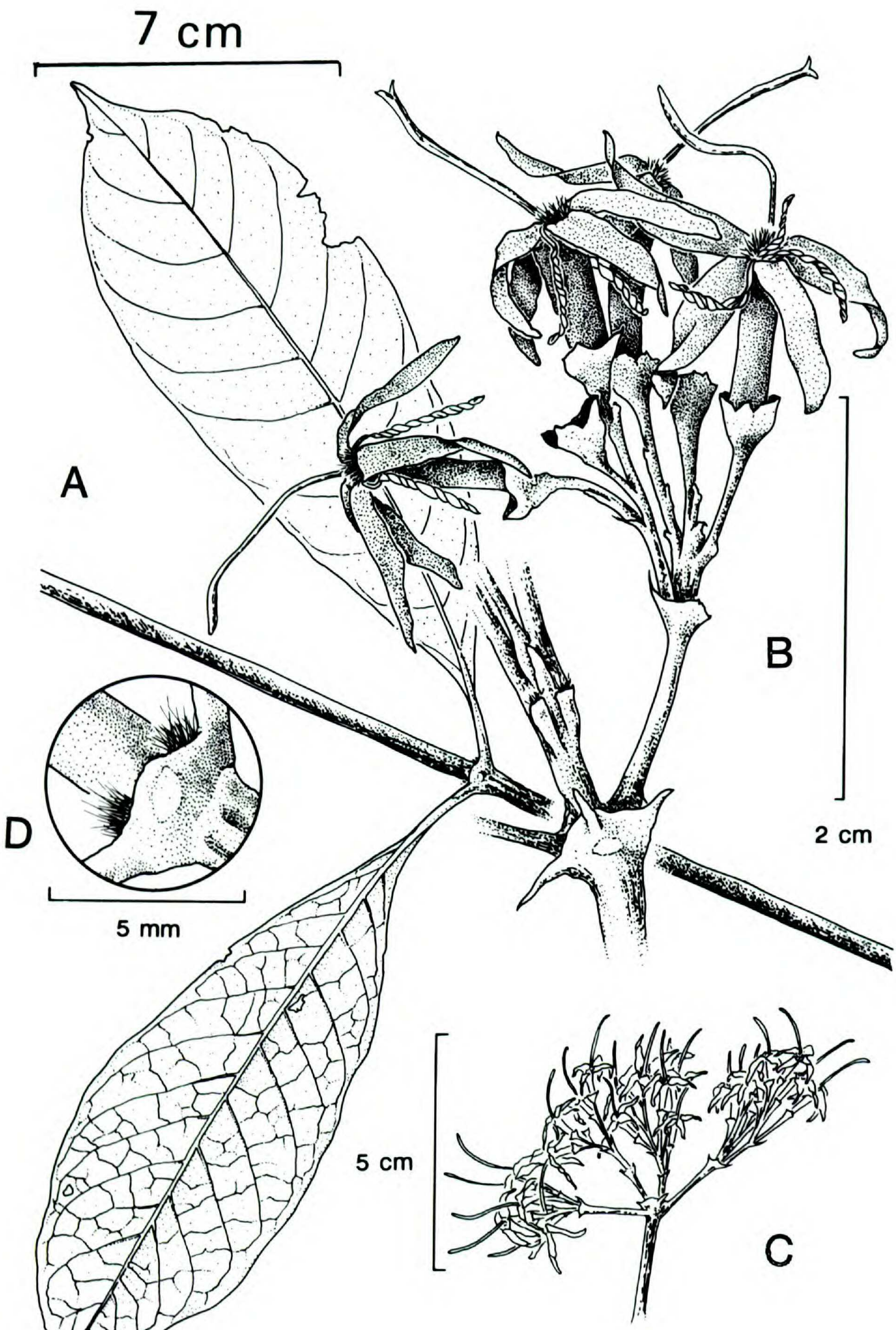


Figure 19. *Pavetta namatae* (*Gocker 18*, MO).—A. Habit.—B. Part of inflorescence.—C. Inflorescence.—D. Node with stipule base glabrous outside, hairy inside.

7 mm. Style clavate, glabrous to puberulent, exserted 8–12 mm. Stigma sometimes with 2 lobes ca. 0.5 mm. Immature fruits subglabrous. Immature seeds 2, attached ca. halfway up septum, ± reniform.

Additional specimen examined. CAMEROON. **Centre Province:** 7 km ESE of Makak, June (young fr), *Manning 2097* (MO).

Pavetta namatae is endemic to Cameroon. The only known collection locality is in south-central Centre Province.

Pavetta namatae has leaf venation very similar to that of *P. lasioclada*, including tertiary veins often prominent below. Many other features differ, however. These include leaf size, number of ovules per locule in fruits, calyx lobe features, and vestiture of stipules, sheathing bracts, leaves, inflorescences, and calyx lobes.

Pavetta namatae resembles *P. owariensis* except in leaf venation pattern. Tertiary and higher order venation of *P. owariensis* are not prominent below as in *P. namatae*. Also, there are 4–10 pairs of secondary veins in *P. owariensis*, (5–)10–15 pairs in *P. namatae*.

Pavetta namatae is named in honor of Ferdinand Namata of Makeke Camp near Mundemba, Southwest Province, Cameroon. His knowledge of the flora and fauna of Cameroon, his efforts to conserve them, and his field guidance to researchers are here recognized.

22. Pavetta neurocarpa Bentham, Niger Fl. 414. 1849. *Ixora neurocarpa* (Benth.) Kuntze, Revis. Gen. Pl. 1: 287. 1891. TYPE: Equatorial Guinea. Bioko Island, formerly Fernando Po, Nov. (1841?) (fr), *Vogel 151* (holotype, K).

Pavetta mannii Hiern, Fl. Trop. Africa 3: 169. 1877. *Ixora mannii* (Hiern) Kuntze, Revis. Gen. Pl. 1: 287. 1891. TYPE: Cameroon. Probably Southwest Province: Cameroon River or Ambas Bay, Dec. 1862 (fl), *Mann s.n.* (K, P).

Pavetta mannioides Hutch. & Dalziel, Fl. W. Trop. Africa 2: 91. 1931. Syn. nov. TYPE: Nigeria. Oban District: 1911–1912 (fl), *Talbot & Talbot s.n.* (K).

Shrubs to 4 m. Twiglets glabrous, floriferous twiglets 2–29 cm. Leaves coriaceous to subcoriaceous, sometimes anisophyllous; blades elliptical to oblong or obovate, (3–)7–35 × (1–)5–13 cm, glabrous; apex rounded to obtuse, acute (or rarely emarginate), acumen if present 5–30 × 2–12 mm; base cuneate to attenuate, sometimes strongly asymmetrical; midrib and secondary veins sometimes prominent or prominulous below, secondary veins (5–)8–16 each side, usually joined 2–15 mm from margin; domatia absent or occasionally present as small, sometimes hairy pockets in some branch vein angles of midrib; nodules scattered on blade, occasionally along midrib; fourth and higher order venation obvious or obscure above, much or slightly less obvious below; venation density fine. Stipules deciduous, remains apparently rotund to diamond or trapezoidally lobed, glabrous, awn deciduous or apparently absent. Inflorescences cor-ymb-shaped to subrotund, pyramidal or irregular in outline or with subunits of these shapes, 0.5–13 cm across, lax to congested, glabrous (or less often subglabrous), peduncle absent or to 20 mm, flowers 3–200; sheathing bracts ovate lobed to unlobed and then cup- or saucer-shaped, sometimes subtruncate near apex, glabrous, sometimes with foliar appendages ca. 1 mm, linear awns 0.5–4 mm, or ovate awns 0.5–4 × ca. 1 mm; other bracts ovate (or less often subquadrate), concave, 0.5–2 mm, usually not fimbriate, rarely with several fimbriae or an awn to ca. 0.5 mm; bracteoles resembling smaller bracts sometimes present. Calyx tube 0.7–2 mm long, 1.2–2 mm wide halfway up; lobes valvate or almost overlapping at base, compressed rotund (to less often rotund, pentagonal, subquadrate, short triangular, or truncate), 0.2–1(–1.8) × 1 mm, glabrous (or less often subglabrous), sometimes carinate, rim lighter. Corolla white or green-white, tube cylindrical or broadened from base to throat, (0.5–)2–4(–7) × (0.5–)1–2(–3) mm; lobes 3–8 mm, pubescent above near throat or lobe vestiture sometimes nearly absent but vestiture present on filaments near their points of insertion; anthers usually drying black with white stripes; style fusiform, usually narrowly so, pubescent or puberulent, exserted (3–)6–11(–15) mm. Fruits ca. 6–10 mm across, glabrous or subglabrous, white sometimes with green vertical stripes. Mature seeds 2, attached ca. halfway up septum, concave.

Additional specimens examined. CAMEROON. **Southwest Province:** Cameroon River or Ambas Bay, location uncertain, Dec. (fl), *Mann s.n.* (K, P); 12 km NW of Limbe, Feb. (fl), *Satabié 651* (YA); path from 4 km W of Batoke, Limbe–Idenao road, base of Mt. Cameroon, Dec. (fl), *Thomas et al. 5120* (MO), Dec. (fr), *Thomas et al. 5121* (MO); S slope of Mt. Cameroon above Batoke, Dec. (fl bud), *Thomas 2770* in part (MO), the remainder being *Pavetta rigida* Hiern and designated *2770A*; NE of Bafia, Victoria = Limbe District (fl), *Keay FHI 37533* (K); Korup National Park, Jan. (fl), *Thomas 4322* (K, MO, P, YA), Apr. (young fr), *Manning 1711* (MO), *1769* (MO); 7 km S of Mundemba, Nov. (fl bud & fr), *Manning 1035* (MO); S shore of Lake Barombi Mbo, 5 km NW of Kumba, Apr. (fr), *Manning 1779* (MO), June (fr), *Manning 2060* (MO). **South Province:** hill of Nkoltsia near Gouap, 18 km NW of Bipindi, Feb. (fl), *Villiers 794* (P). NIGERIA. **Oban District:** (fl), *Mr. and Mrs. P. A. Talbot s.n.* (K).

Most collections from Cameroon are from mature,

fully shaded, very wet forests in Southwest Province. *Pavetta neurocarpa* has also been found in wet forest in western South Province. Outside Cameroon, it has been reported only from nearby Bioko and southeastern Nigeria, where the plants formerly referred to *P. mannioides* are centered. It is a Lower Guinean species sensu White (1979). It has been collected near a lake and reported to be fragrant. Substrates reported include volcanic lava soil and rock at a hill's summit. Elevations reported are from 50 to 800 m, mostly toward the lower end of the range.

Pavetta neurocarpa is characterized by glabrous inflorescences usually drying black with strongly concave, sometimes almost boat-shaped bracts, which are glabrous internally. Occasionally, corolla tubes are shorter than 1 mm, though normally they are 2–4 mm long. Relatively unusual features *P. neurocarpa* shares with a few other species follow the description of *P. muiriana.*

Bremekamp (1934) and others maintained a separate species, *Pavetta mannioides,* for specimens with smaller, contracted inflorescences with smaller and fewer flowers than *P. neurocarpa.* Recent collections (*Satabié 651* and *Thomas 4322*) show variation sufficient to combine these species into one taxon.

23. Pavetta owariensis Palisot de Beauvois, Fl. d'Oware et de Benin, en Afrique 1: 87, t. 52. 1806. TYPE: Nigeria. Between Oware and Buonopozo (fl), *Palisot de Beauvois s.n.* (holotype, P).

KEY TO THE VARIETIES OF *PAVETTA OWARIENSIS* IN CAMEROON

1. Fourth and higher order leaf venation obscure or invisible below 2
1. At least some leaves with fourth and higher order leaf venation not obscure or invisible below 3

2(1). Calyces persistent in mature fruit; plants so far known only from Southwest Province .. var. *satabiei*

2. Calyces not persistent in mature fruit; plants so far known only from South, Littoral, and Centre Provinces ..... var. *opaca*

3(1). Domatia absent from secondary veins and absent along most midribs ..... var. *glaucescens*

3. Domatia present along midrib and some secondary veins ..... var. *owariensis*

a. **Pavetta owariensis** var. **owariensis**

Pavetta smythei Hutch. & Dalziel, Fl. W. Trop. Africa 2: 92. 1931. TYPE: Sierra Leone. Fundu, Jan. 1908 (fl & fr), *Smythe 214* (K).

Pavetta eketensis Bremek., Repert. Spec. Nov. Regni Veg. 37: 75. 1934. TYPE: Nigeria. Eket District, 1912–1913 (fl), *Talbot & Talbot s.n.* (holotype, BM; isotype, K).

Pavetta nigritana Bremek., Repert. Spec. Nov. Regni Veg. 47: 20. 1939. TYPE: Nigeria. Sapoba (fl), *Kennedy 2346* (K).

Shrubs or small trees to 8 m. Twiglets glabrous to puberulent, floriferous twiglets 11.5–19 cm. Leaves chartaceous, sometimes anisophyllous; blades elliptical to ovate, obovate or oblong, (2–)9–16(–25) × (1–)3.5–6.5(–9) cm, glabrous except major veins and margins sometimes subglabrous, apex acute or obtuse, often asymmetrical, with acumen 3–12 × 2.5–7 mm; base attenuate to cuneate, sometimes asymmetrical; midrib prominulous below toward base, secondary veins 4–9 each side, eucamptodromous; usually hairy, crescent-shaped pocket domatia or pit or tuft domatia in most branch vein angles of midrib, sometimes along secondary veins; nodules scattered on blades or near midrib; fourth and higher order venation obvious above and below; venation density coarse. Stipules sometimes deciduous, rotund to triangular lobed, pubescent internally at least near base, subglabrous externally; awn cuspidate to linear, 1–3 mm. Inflorescences 3–6 cm across, subrotund to subpyramidal or cruciform in outline, sometimes lax, puberulent, peduncle sometimes with sheathing bracts along its length as well as at base, to 10 mm; subunits sometimes inverted pyramidal in outline; flowers 20–125; sheathing bracts triangular to rotund lobed or unlobed and saucer-shaped, puberulent to subglabrous externally, pubescent internally; awns ovate or linear, 1 mm; other bracts ovate or linear, to 2 mm, sometimes with 1–several fimbriae to 1 mm, or tufts of hair or fimbriae borne from axis directly; bracteoles resembling smaller bracts sometimes present. Calyx tube 0.7–1.5 mm long, 1.5–2 mm wide halfway up; lobes valvate (or bases less often slightly overlapping), rotund, triangular, pentagonal (or less often oblong or ovate), 0.5–2 × 0.5–1.8 mm, puberulent, sometimes carinate, rim usually lighter. Corolla white; tube broadened from base to apex, 3.5–6 × 0.7–2.5 mm; lobes 4–7 mm. Style narrowly clavate, pubescent or puberulent, exserted 7–9 mm. Pre-fruiting ovules 2, attached ca. halfway up septum, reniform.

Additional specimens examined. CAMEROON. **Southwest Province:** southern end of Korup National Park, Mar. (fl), *Thomas & McLeod 5823* (K, MO).

b. **Pavetta owariensis** var. **opaca** S. D. Manning, var. nov. TYPE: Cameroon. South Province: 60 km S of Edéa, S of Mboké, Mar. 1965 (fl), *Leeuwenberg 5555* (holotype, P; isotypes, BR, K, MO, WAG). Figure 20.

A varietate *owariensi* domatiis interdum nullis, inter-

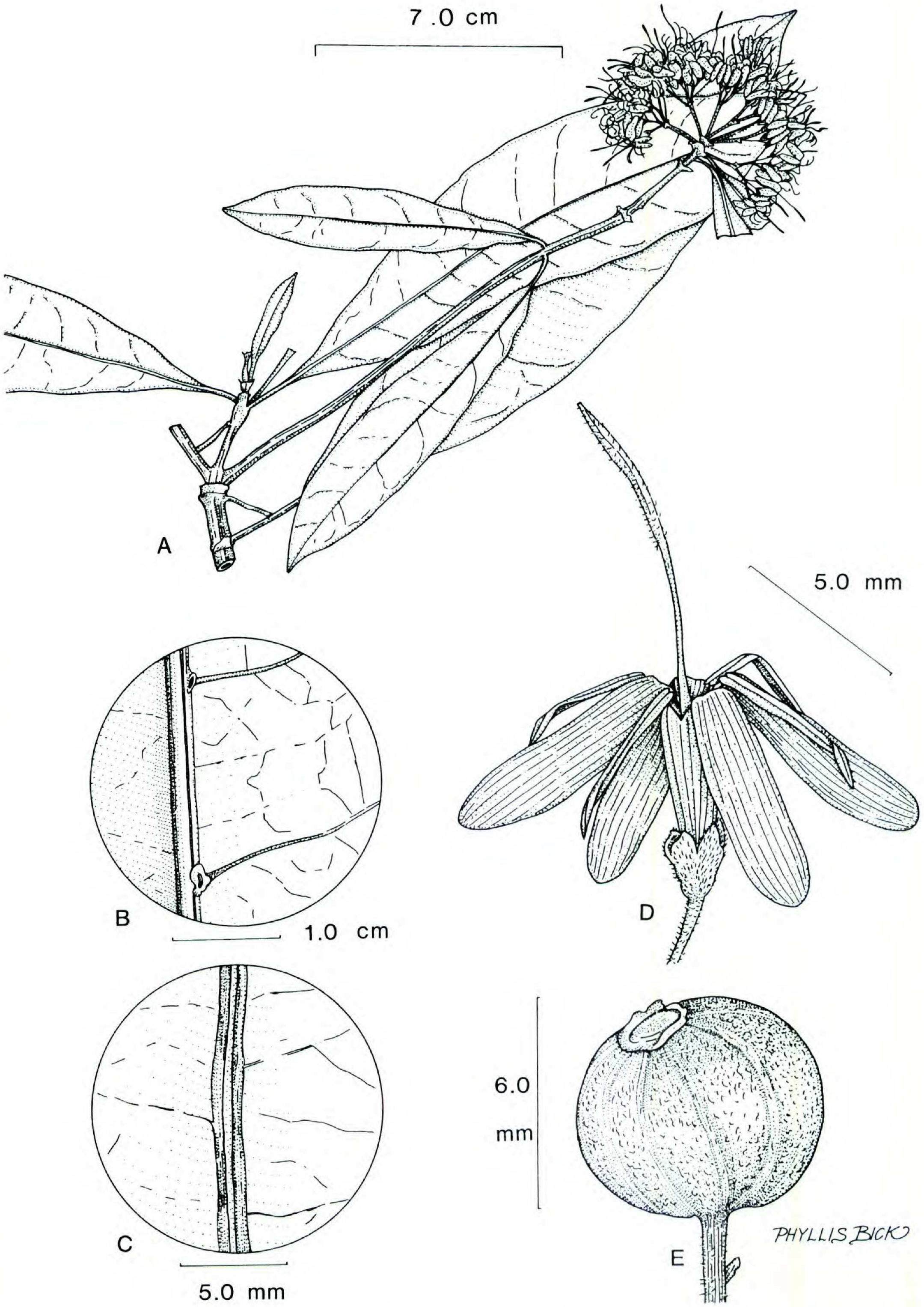


Figure 20. *Pavetta owariensis* var. *opaca* (A–D, *Leeuwenberg 5555*, P; E, *de Wilde & de Wilde-Duyfjes 1538*, MO).—A. Habit.—B. Part of lower leaf surface with domatia and showing obscure venation.—C. Part of upper leaf surface with bacterial nodules (elongated darker areas) along midrib.—D. Flower.—E. Fruit lacking persistent calyx.

dum secus costam et rare secus nervos secundarios; reticulo tenui, venulis utrinque obscuris vel invisibilibus differt. Inflorescentiae 2–15 cm latae; corolla tubo (3–)5–9 mm longo, lobis 6–11 mm longis; styli exserti (6–)10–15 mm.

Shrubs or small trees to 15 m tall. Floriferous twiglets glabrous, to 37 cm. Leaves sometimes coriaceous, no ovate blades seen; apex occasionally rounded; acumen to 23 × 12 mm; base sometimes obtuse, only slightly if at all asymmetrical; midrib prominent below at least toward base, domatia absent or present as crypts in some branch vein angles of midrib and occasionally on secondary veins, often puberulent; nodules along midrib and on blade, sometimes rare; venation density fine; fourth and higher order venation obscure or invisible above and below; stipules cup-shaped, glabrous externally, awn to 4 mm. Inflorescences corymb-shaped to pyramidal or rotund in outline, 2–15 cm across, sometimes subglabrous proximally, sessile or subsessile, flowers to 350 per inflorescence; sheathing bracts sometimes with linear awns to 2 mm or foliar appendages to 3 mm; foliar bracts sometimes present; other bracts concave, irregular or obovate; calyx tube to 1.8 mm long and to 2.5 mm wide halfway up; lobes 1–3 × 1–2 mm, subglabrous to pubescent; corolla tube subcylindrical or cylindrical, (3–)5–9 × 1–3 mm, lobes 6–11 mm; style subglabrous to pubescent, exserted ca. (6–)10–15 mm. Fruits ca. 8 mm across, subglobose, puberulent to glabrous, whitish, gray-green, or light green with darker green streaks, without persistent calyx. Seeds 2 or 1, slightly concave when immature. Other character states within ranges described above for variety *owariensis*.

The most obvious distinguishing feature of variety *opaca* is the obscure leaf venation above and below as a result of its thick, sometimes brittle leaves. Although this also occurs in variety *satabiei*, the calyx does not persist in fruit in variety *opaca* as it does in variety *satabiei*. The tallest representative of subgenus *Baconia* in Cameroon belongs to variety *opaca*.

Additional specimens examined. CAMEROON. **South Province:** Bipindi (fr & vegetative), *Zenker 2554* (BR, HBG, MO, S, W, WAG); Bitye (fl), *Bates 1210* (BM, labeled "Bitye, Yaunde"; MO, labeled "Bitye River"). **Littoral Province:** Tissongo, July (fr), *DBM/JSG = McKey & Gartlan 109* (K). **Littoral Province (Centre?):** Kéllé River ca. 50 km NW of Eséka, Nov. (fl bud & fr), *de Wilde & de Wilde-Duyfjes 1295* (K, MO, WAG). **Centre Province:** Yaoundé (fl), *Zenker & Staudt 278* (K), *543* (BM); 16 km from Eséka, chantier de la SBC de Badjob, Feb. (fr), *Mpom 202* (BR, YA); 40 km S of Badjob, 50 km SW of Eséka near Nyong River, Dec. (fr), *de Wilde & de Wilde-Duyfjes 1538* (B, BR, K, MO, WAG, YA); Son Mbong, 50 km SW of Eséka, Dec. (fl bud & fr), *Bamps 1378* (BR, P, YA); 5 km W of Son Mbong, Mar. (fl), *Leeuwenberg 5069* (BR, HBG, MO, WAG, YA).

c. Pavetta owariensis var. **glaucescens** (Hiern) S. D. Manning, comb. nov. Basionym: *Pavetta glaucescens* Hiern, Fl. Trop. Africa 3: 171. 1877. *Ixora glaucescens* (Hiern) Kuntze, Revis. Gen. Pl. 1: 286. 1891. TYPE: Equatorial Guinea. Bioko Island, formerly Fernando Po, rec'd. June 1862 (fl), *Mann s.n.* (holotype, K).

Pavetta chionantha K. Schum. & K. Krause, Bot. Jahrb. Syst. 39: 552–553. 1907. TYPE: Cameroon. South Province: Bipindi, Mar. 1900 (fl bud & fl), *Zenker 2254* (syntypes, B destroyed, BM, HBG, S, W).

Shrubs to 4 m. Floriferous twiglets 6–27 cm. Leaves membranaceous to coriaceous, blades to 25 × 10 cm, apex occasionally rounded or emarginate, acumen to 21 × 12 mm or occasionally absent, domatia absent from secondary veins and usually from midrib, venation sometimes brochidodromous, venation density medium, fourth and higher order venation often obscure above; stipules cup-shaped, glabrous externally, awn to 4 mm. Inflorescences sometimes trapezoidal or corymb-shaped in outline, to 16 cm across, sometimes subglabrous, peduncle absent or ca. 3 mm; sheathing bracts sometimes cup-shaped, their internal vestiture often extending beyond margin, with linear awns to 2 mm and sometimes foliar appendages 3–5 mm; foliar bracts resembling normal or slightly reduced foliage leaves sometimes present; calyx lobes mostly ovate, ca. 1–4 mm long, sometimes subglabrous, margin ciliate; corolla tube 5–8 mm, sometimes cylindrical, lobes 6–12 mm, tips green in bud; style exserted 9–18 mm, sometimes glabrous. Fruits and seeds similar to those of variety *opaca*. Other character states within ranges described above for variety *owariensis*.

Of the above described features, the ones most reliably distinguishing variety *glaucescens* from variety *owariensis* in Cameroon are: fourth and higher order venation often obscure above, domatia absent from secondary veins and usually from the midrib, calyx lobes mostly ovate, corollas larger, and styles further exserted.

Additional specimens examined. CAMEROON. **Southwest Province:** ca. 25 km N of Kumba on Kumba-Mamfe road, July (fr), *Nemba & Thomas 140* (MO); Southern Bakundu Forest Reserve, Mar. (fl), *Onochie et al. FHI 31199* (K); Southern Bakundu Forest Reserve, Bopo-Banga path, Feb. (fl), *Binuyo & Daramola FHI 35576* (K); Southern Bakundu Forest Reserve, path from beacon 45–44, Apr. (fl), *Ejiofor FHI 29306* (K); Southern Bakundu Forest Reserve, near Kindonge Camp ca. 20 km SSW of Kumba, Apr. (fl), *Manning 1684* (MO), Apr. (young fr), *Manning 1680* (MO); Barombi Kang near Kum-

ba, Feb. (fl), *Thomas 4367* (MO), June (fr), *Thomas 7076* (MO); Lake Barombi Mbo ca. 5 km NW of Kumba, Apr. (fl & young fr), *Manning 1785* (MO), Nov. (fr), *Manning 703, 792, 819, 820* (all MO), June (fr), *Manning 2059* (MO), Mar. (fr), *Nemba & Thomas 76* (MO); southern end of Korup National Park, Mar. (fl bud), *Thomas & McLeod 5826* (BR, MO), Apr. (fl), *Thomas 4724* (MO); southwestern corner of Korup National Park, June (fr), *Thomas 8108* (MO); Mundemba, Mar. (fl), *Thomas 6798* (MO); Rio del Rey, June (fl), *Johnston s.n.* (K). **Littoral Province:** S of Nkongsamba, Dec. (fl bud), *de Wit 306* (WAG). **Centre Province:** Yaoundé (vegetative), *Zenker 700* (K lower part of sheet only; not upper part of K sheet or NY, P, or S, which are *Pavetta calothyrsa*). **South Province:** Bipindi, Mar. (fl bud & fl), *Zenker 2254* (BM, HBG, S, W).

d. Pavetta owariensis var. **satabiei** S. D. Manning, var. nov. TYPE: Cameroon. Southwest Province: Butu–Dikome Balue Road ca. 34 km NW of Kumba, Mar. 1976 (fl bud & fl), *Satabié 252* (holotype, BR; isotype, YA). Figure 21.

A varietate *opaca* fructu maturo cum calyce persistenti differt.

Similar to variety *opaca* except calyces persistent in fruit. Also, in variety *satabiei* the tallest reported representative is 5 m, no domatia have been seen, and fruits to ca. 10 mm across have been seen.

Additional specimens examined. CAMEROON. **Southwest Province:** around Ehumseh, Ntehol and Mejelet, W of Bangem, June (fr), *Etuge & Thomas 178* (BR, MO); path from Ndibisi to Mejelet, W of Bangem, June (fr), *Etuge & Thomas 534* (MO).

In Cameroon, *Pavetta owariensis* var. *owariensis* is known only from Korup National Park in southwestern Southwest Province. It is centered west of Cameroon in the Upper and Lower Guinean subcentres of specific endemism sensu White (1979). It also has been reported from Bioko and Gabon. Variety *opaca* is endemic to Cameroon and is fairly widespread in Littoral, Centre, and South Provinces. Variety *glaucescens* occurs in Cameroon, southeastern Nigeria, Bioko, and reportedly in Gabon, Cabinda (Angola), Rio Muni (Equatorial Guinea), and Congo (Hepper & Keay, 1963). Its distribution thus is centered in the Lower Guinea centre of specific endemism sensu White (1979), overlapping that of the more west-centered variety *owariensis* in southern Nigeria, Cameroon, and Bioko. In Cameroon, though most collections of variety *glaucescens* are from southern Southwest Province, others are from widely scattered locations in Centre, South, and Littoral Provinces. Variety *satabiei* is endemic to Cameroon's Southwest Province.

Pavetta owariensis occurs in mature and secondary forest and at forest edges. Varieties *glaucescens*, *opaca*, and *owariensis* are lowland taxa; variety *opaca* has also been found at 800 m. Variety *satabiei* has been found so far only at elevations between 800 and 1400 m. Reported heights of varieties *opaca* and *owariensis* include plants taller than in the other two varieties or in most other species of subgenus *Baconia* in Cameroon.

Intermediates nearly bridge the gaps between the varieties recognized here, which are thus a compromise between distinctions that are too fine at the species level and a failure to recognize taxonomically the differences that do exist.

Although *Pavetta owariensis* is variable as interpreted here, the spreading, sometimes lax inflorescences, sometimes profuse in varieties *glaucescens*, *opaca*, and *satabiei*, and medium to large flowers of *Pavetta owariensis* span the varieties recognized and distinguish *P. owariensis* from otherwise similar species such as *P. grossissima* and *P. gabonica*, which have smaller inflorescences. Calyx lobes are never subquadrate (Fig. 5) as in *P. calothyrsa*. They are never compressed (Fig. 5) and are 1 mm or more long. Their bases overlap less than 10% of the time, distinguishing *P. owariensis* from *P. corymbosa*. Lack of papillae or vestiture on upper leaf surfaces distinguishes it from most specimens of *P. longibrachiata*, and leaf venation and domatia patterns in the latter species are distinct from those found in any of the varieties of *P. owariensis*. *Pavetta namatae* differs in having tertiary leaf veins often prominent below and in having more secondary veins.

The former *Pavetta glaucescens*, including the former *P. hygrophytica* and newer collections, remains intact at the varietal level. Variety *opaca* is so named for its obscure or invisible higher order venation both above and below. Variety *satabiei* is named in honor of Benoit Satabié, director of the National Herbarium of Cameroon, who collected the first known and type specimen of the variety.

24. Pavetta robusta Bremekamp, Repert. Spec. Nov. Regni Veg. 47: 19. 1939. TYPE: Gabon. Haute-Ngounyé, Poungui, Mar. 1927 (fl bud & fl), *Le Testu 6420* (holotype, BM; isotypes, BR, MO, P).

Shrubs ca. 5 m. Twiglets glabrous, floriferous twiglets 2.5–18 cm. Leaves coriaceous to subcoriaceous, glabrous, occasionally anisophyllous; blades oblong to obovate or elliptical, 5–28 × 2–13 cm; apex obtuse to acute, rounded (or rarely emarginate), acumen if present 4–15 × 3–10 mm, base cuneate or attenuate, sometimes asymmetrical, midrib prominulous below toward base, midrib and secondary veins often impressed above, secondary

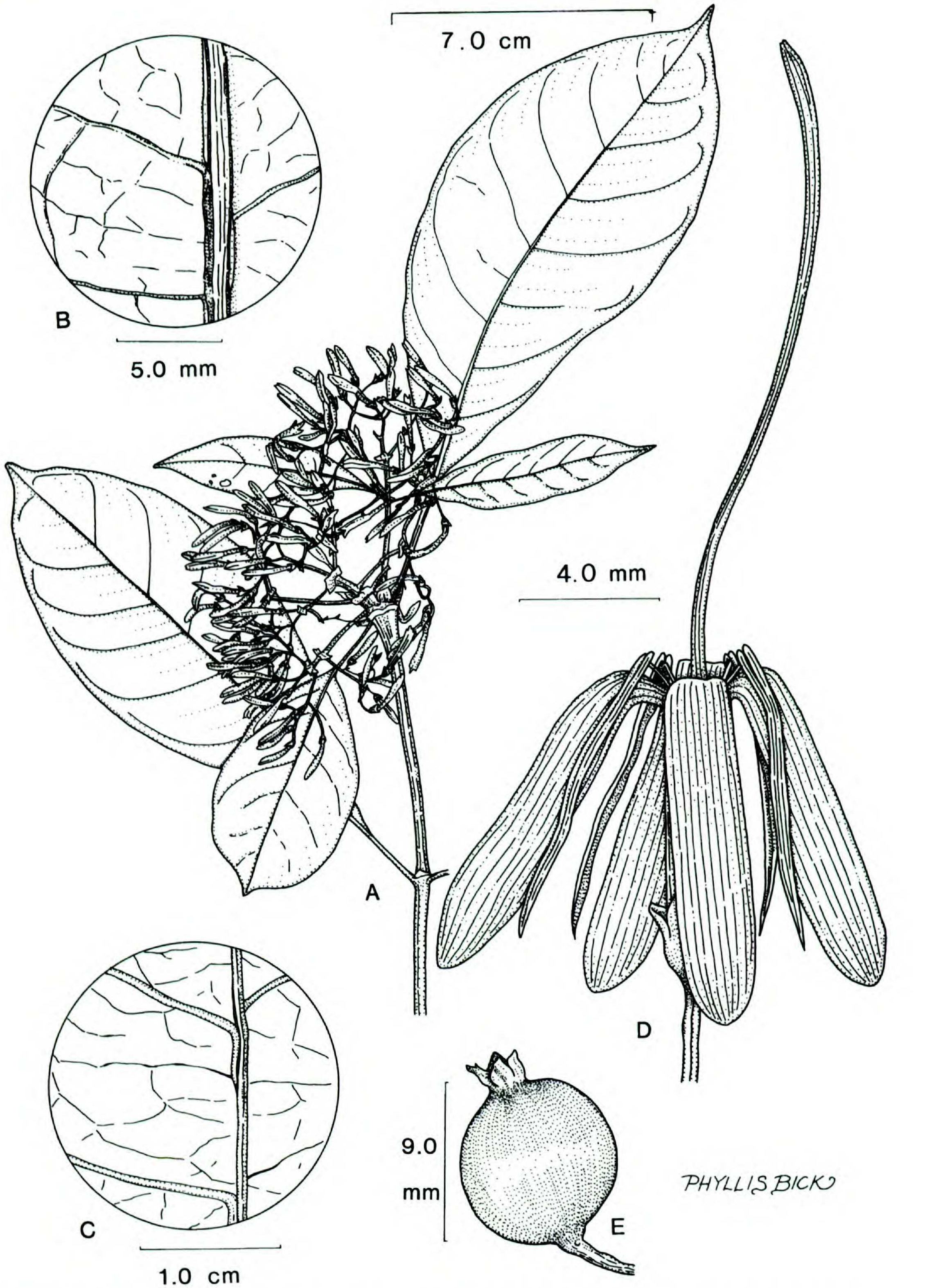


Figure 21. *Pavetta owariensis* var. *satabiei* (A–D, *Satabié 252*, BR; E, *Etuge & Thomas 178*, MO).—A. Habit.—B. Part of upper leaf surface with bacterial nodules along midrib.—C. Part of lower leaf surface without domatia.—D. Flower.—E. Fruit with persistent calyx.

veins 5–9 each side, eucamptodromous or brochidodromous, often sparingly pubescent, often crescent-shaped pocket or sometimes pit domatia in some branch vein angles of midrib; nodules scattered on blade, rarely on midrib; fourth and higher order venation usually slightly more obvious above; venation density fine. Stipules rotund lobed, glabrous externally and internally at least above the base, awn deciduous. Inflorescences corymb-shaped to subrotund or pyramidal in outline, 4–14 cm across, subglabrous to puberulent distally, subglabrous to glabrous proximally, sessile except leafless lateral inflorescences from node below main inflorescence, if considered separate, with peduncles to 4 cm; flowers 75–400, fragrant; sheathing bracts rotund or ovate lobed, glabrous to pubescent near base internally, glabrous externally, awns deciduous, ± ovate to linear, ≥1 mm; foliar bracts if present resembling small foliage leaves except base sometimes auriculate; other bracts ovate to rotund lobed, to 3.5 mm, sometimes with 1–several fimbriae to 2 mm or fimbriae borne from axis directly; bracteoles resembling smaller bracts sometimes present. Calyx tube 1–1.8 mm long, 1.2–2 mm wide halfway up; lobes valvate or bases overlapping, subquadrate (to sometimes obovate, compressed rotund, rotund, truncate or shallowly 2-lobulate), 0.2–1 × 1–2 mm, glabrous, not or inconspicuously carinate, rim sometimes lighter. Corolla white, tube broadening from base or slightly above base to apex, 5–9 × 1–2.5 mm; lobes 5–9 mm. Style clavate, subglabrous to pubescent, exserted (4–)7–10 mm. Stigma 2-lobed, lobes rarely spreading up to 2 mm. Ovules in open flower 2, ± reniform, one on each side of septum.

Additional specimens examined. CAMEROON. **South Province:** Bitye (fl bud & fl), *Bates 1046* (BM, MO; both labeled "Bitye, Yaunde").

The only collection of *Pavetta robusta* from Cameroon is apparently from lowland forest. The species also occurs in Gabon. Its large leaves and large, profuse, many-flowered inflorescences fit its name excellently. Comparisons of *P. robusta* to the similar *P. calothyrsa* and *P. molundensis* follow the descriptions of those species. It is similar to *P. corymbosa* in having calyx lobe bases overlapping more than 10% of the time. However, calyx lobes are rarely longer than 1 mm in *P. robusta*, rarely as short as 1 mm in *P. corymbosa*. Calyx lobes are usually subquadrate (Fig. 5) in *P. robusta*, usually rotund and rarely subquadrate in *P. corymbosa*. Leaves and inflorescences also are larger on average in *P. robusta* than in *P. corymbosa*.

25. Pavetta rubentifolia S. D. Manning, sp. nov. TYPE: Cameroon. Southwest Province: Bakossi Mountains W of Bangem, Jan. 1986 (fl), *Thomas & McLeod 5343* (holotype, MO; isotype, YA not seen). Figure 22.

Frutex. Folia marronina, coriacea, glabra; nervis secundariis utroque 8–13; domatiis nullis; nodulis nullis. Inflorescentiae in ambitu subrotundatae ad subcorymbosas, 0.5–1.5 cm latae. Lobi calycini breviter triangulares, rotundato-compressi (vel interdum deltoidei), ca. 0.2–0.5 × 1 mm, glabri. Corolla tubo 3–4 mm; lobis 3–5 mm, super prope faucem pubescentibus. Styli exserti 3–5 mm.

Shrub 1 m. Twiglets glabrous, floriferous twiglets ca. 14 cm. Leaves maroon, coriaceous, glabrous, not or hardly anisophyllous; blades oblong to elliptic or obovate, 13–16 × 3.5–4.5 cm; apex acute, subacuminate or with acumen 8–15 × 3–5 mm; base cuneate to attenuate, sometimes asymmetrical; midrib sometimes prominulous below toward base, secondary veins 8–13 each side, usually eucamptodromous; domatia absent; nodules absent; fourth and higher order venation usually somewhat more obvious above; venation density coarse. Stipules deciduous, cup-shaped, glabrous. Inflorescences subrotund to subcorymb-shaped in outline, 0.5–1.5 cm across, subglabrous to puberulent except peduncle glabrous, peduncle 4 mm, flowers 20–35; sheathing bracts unlobed and cup- or saucer-shaped or broadly lobed, glabrous, awns linear, ca. 1 mm; other bracts ± ovate to obovate or linear, to 2 mm, sometimes with 1–several fimbriae ca. 1 mm; bracteoles if present resembling smaller bracts or fimbriae borne from pedicels directly. Calyx tube 0.7–1 mm long, 1.7–2 mm wide halfway up; lobes valvate, short triangular, compressed rotund (or less often deltoid), ca. 0.2–0.5 × 1 mm, glabrous, not (or inconspicuously) carinate, rim narrowly lighter. Corolla white; tube cylindrical or subcylindrical, 3–4 × 1–1.5 mm; lobes 3–5 mm, pubescent above near throat. Style narrowly clavate, puberulent, exserted 3–5 mm.

Pavetta rubentifolia is endemic to eastern Southwest Province, Cameroon. It is a montane forest shrub collected at an elevation of between 800 and 1600 m.

Pavetta rubentifolia is characterized by its maroon-coriaceous leaves, very small flowers, and very small but not subumbellate inflorescences. It is distinct from other Cameroon specimens, but similar to *P. ixorifolia* Bremekamp s. str., a species occurring west of Cameroon, and to *P. nitidula* s. str., which occurs south of Cameroon. *Pavetta ixorifolia* s. str. and *P. nitidula* s. str. lack the elongate acumens sometimes found in *P. rubentifolia*. Some

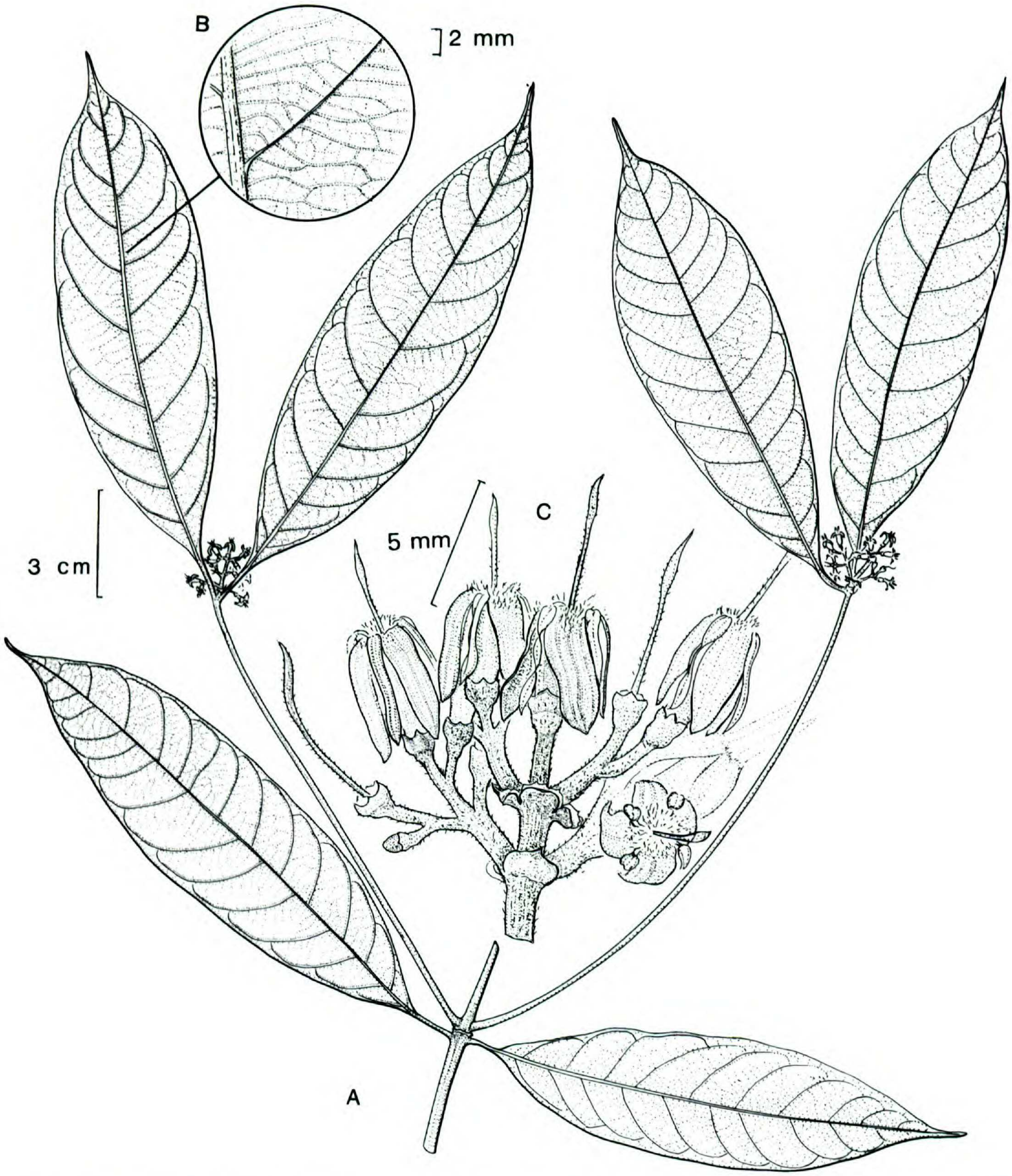


Figure 22. *Pavetta rubentifolia* (*Thomas & McLeod 5343*, MO).—A. Habit.—B. Details of leaf venation.—C. Inflorescence.

Cameroon collections have previously been identified on herbarium sheets as *P. nitidula* and others as *P. ixorifolia*, but those all belong to other species.

Pavetta rubentifolia resembles *P. camerounensis* in having corolla throat beards extending onto the upper corolla lobe surfaces. These species differ, however, in that the inflorescences of *P. rubentifolia*, while very small, are not subumbellate and in the normally shorter, narrower maroon leaves of *P. rubentifolia*.

Pavetta rubentifolia is so named because of the maroon color of its leaves as seen in the field.

26. Pavetta staudtii Hutchinson & Dalziel, Fl. W. Trop. Africa 2: 91. 1931. TYPE: Cameroon.

Southwest Province: Kumba, formerly Johann-Albrechtshöhe, 1896 (fl bud & fl), *Staudt 599* (holotype, K; isotypes, P, S).

Shrubs to 6 m. Twiglets glabrous, floriferous twiglets (4–)6–30 cm. Leaves subcoriaceous to coriaceous, glabrous, sometimes anisophyllous; blades elliptic to obovate (or less often ovate or oblong), 2–20 × 1–7.5 cm; apex acute to obtuse or rounded, sometimes asymmetrical, usually with acumen (2–)5–25(–35) × (1–)2–12 mm; base cuneate (to less often rounded, attenuate, or cordate), often asymmetrical; midrib and secondary veins prominulous or subprominulous below, secondary veins (3–)5–10 each side, sometimes joined 2–10 mm from margin; pit, pocket, or crypt domatia in branch vein angles of midrib and rarely of some secondary veins, usually pubescent; nodules mostly pustuliform, often numerous and conspicuous, scattered on blade and not usually along midrib or secondary veins; fourth and higher order venation rather obscure above, usually slightly more obvious below; venation density medium. Stipules cup- shaped, glabrous externally and above base internally, sheath often ± triangular lobed and extending to 3 mm above node, awn deciduous, linear to cuspidate, 1–3 mm. Inflorescences corymb- or subcorymb-shaped in outline, 1–8 cm across, puberulent to subglabrous distally, subglabrous (to less often glabrous) proximally, peduncle to 20 mm usually present, sometimes with a sheathing bract ca. halfway up, flowers (10–)20–100(–200); sheathing bracts rotund to elliptic lobed to unlobed and saucer- or cup-shaped, glabrous (to sometimes pubescent at base internally), with linear awns 1–2 mm or occasionally foliar appendages 2–5 mm; other bracts ovate to obovate (or less often linear), to 2 mm, sometimes with 1–several fimbriae to ca. 1 mm long, or fimbriae borne from axis directly; bracteoles resembling smaller bracts sometimes present. Calyx tube 0.5–1 mm long, 1.2–1.5 mm wide halfway up; lobes valvate or overlapping in bud, not overlapping at bases in open flowers, subquadrate (to less often rotund, pentagonal, or shallowly 2–3 lobulate), 0.2–1 × 0.7–1.5 mm (or occasionally truncate at base), glabrous to subglabrous, sometimes carinate, rim lighter. Corolla white or creamy white, tube broadening from base to throat, 4–11 × 0.7–2.5 mm; lobes sometimes green tipped or margined, 5–10 mm. Style clavate, pubescent (to less often subglabrous), exserted 6–12(–15) mm. Stigma sometimes narrowly 2-lobed, lobes 1–2 mm. Fruits ca. 7–10 mm across, glabrous, white, whitish, brown, light green, or gray with dark or glaucous green vertical stripes. Ovules 2, sometimes pendent in flower bud, seeds 2 or 1, concave, attached ca. halfway up septum.

Additional specimens examined. CAMEROON. **Southwest Province:** Nganjo, W bank of Meme River on Kumba–Mbonge road, Feb. (fl bud), *Thomas & Nemba 5664* (MO); Kindonge Camp, Southern Bakundu Forest Reserve ca. 20 km SSW of Kumba, Apr. (fl), *Manning 1685* (MO); 5 km W of Kumba, Nov. (fr), *Manning 739* (MO); path from Mejelet-Ehumseh to Mualong and Ndibise, ca. 5 km W of Bangem, Jan. (fr), *Etuge & Thomas 474* (MO). **Littoral Province:** bank of Mahone River, km 4 Eboné-Ekomtolo road, ca. 10 km S of Nkongsamba, Aug. (fr), *Leeuwenberg 8153* (WAG); Mungo River valley between Ndo and gare de Mujuka, June (fr), *Fleury 33426* (P). **Centre Province:** hill Nkol Nlong, ca. 23 km W of Yaoundé, June (young fr), *Manning 2145* (MO); Son Mbong, ca. 50 km W of Eséka, Dec. (fr), *Bamps 1339* (BR, MO); 12 km W of Son Mbong, Mar. (fl bud & fl), *Leeuwenberg 5026* (BR, MO, WAG). **South Province:** Fifinda-Bella forest track 5 km E of Kribi-Edéa road, ca. 40 km N of Kribi, Feb. (fl & fr), *Bos 6259* (BR, P, WAG); 16 km E of Kribi, N of Lolodorf road, Sep. (fr), *Bos 5373* (BR, MO, WAG); Bipindi (fl bud), *Zenker 4913* (BM, BR, HBG, K, MO, S, W), (fl bud, fl & vegetative), *Zenker 4427* (BM, BR, HBG, S, W), (fl), *Zenker 4355* (BM, BR, HBG, K, MO, S, W); hill Nkolomeyan on road between Biwong Boulou and Koungoulou, 25 km SE of Ebolowa, Jan. (fl bud), *Letouzey 9839* (BR, HBG, P, WAG, YA); Meyo glem 9 km W of Sangmélima, Mar. (fl), *Meijer 15274* (MO); 10 km SW of Ambam, S of Ebolowa, Mar. (fl), *de Wilde & de Wilde-Duyfjes 2044* (BR, P, WAG); near Alati near Congo border SE of Djoum, Jan. (fl bud & fl), *Biholong 261* (BR, YA).

Pavetta staudtii is one of the most widespread species of subgenus *Baconia* in Cameroon, occurring in scattered locations in Southwest, Littoral, Centre, and South Provinces. It is centered in the Lower Guinea subcentre of specific endemism sensu White (1979) and is endemic to Cameroon, though it is predicted from collections near borders that range extensions will be discovered south and perhaps west of Cameroon.

Pavetta staudtii is in dense and open primary and secondary forest understory, mostly in high but not highest rainfall areas. It has been reported from elevations of 50–1100 m, usually from lowlands. Often collections have been reported to be sweet smelling. If a plant of subgenus *Baconia* has conspicuous and numerous punctate, subpunctate, or pustuliform black nodules mostly scattered on leaf blades, leaves often long compared to their width, and inflorescences always corymb- or subcorymb-shaped and usually neither large nor condensed, it is likely to belong to *P. staudtii*. South Province collections sometimes have more flowers and larger inflorescences than those from elsewhere.

Pavetta staudtii is distinct from *P. kribiensis*, which it resembles vegetatively, in having subquad-

rate (Fig. 5) rather than rotund to deltoid calyx lobes, less condensed inflorescences, and often fimbriate bracts.

27. Pavetta tenuissima S. D. Manning, sp. nov. TYPE: Cameroon. South Province: Ma'an, Nov. 1979 (fl), *Letouzey 15211* (holotype, P). Figure 23.

Frutices. Rami floriferi 0(sic facientes inflorescentias axillares)–10 cm. Folia costa et nervis secundariis subter prominentibus, nervis secundariis utroque 10–15; reticulo tenuissimo; venis tertiariis subter prominentibus. Inflorescentiae 0.5–2 cm latae, congestae, pubescentes. Lobi calycini triangulares ad rotundatos, ca. 0.5–1 × 1 mm, pubescentes saltem prope marginem. Corolla tubo 2–3 mm; lobis 2–4 mm, interdum super prope faucem pubescentibus. Styli exserti 2–3 mm.

Shrubs to 2 m. Twiglets pubescent, floriferous twiglets absent or to 10 cm. Leaves chartaceous, not or hardly anisophyllous, blades obovate (or less often elliptic), 14–31 × 6–11 cm, glabrous except margin sometimes pubescent; major veins below, costa and at times part of secondary veins above pubescent; apex acute to rounded, usually with acumen 3–20 × 3–10(–15) mm; base acute to obtuse (or occasionally rounded), sometimes asymmetrical; midrib and secondary veins prominent below, secondary veins 10–15 each side, usually joined 2–5 mm from margin; domatia absent or dense tufts of vestiture in branch vein angles of midrib and along secondary and tertiary veins below; nodules if present linear on side veins or of irregular shapes, scattered on blade; tertiary veins prominent below; fourth and higher order venation obvious above and below; venation density extremely fine. Stipules ± rotund or compressed rotund lobed, pubescent near base internally and densely pubescent or puberulent externally, awn linear, 5–9 mm. Inflorescences subumbellate or with subumbellate subunits, rotund in outline, 0.5–2 cm across, congested, sessile, pubescent, flowers (10–)50; sheathing bracts rotund lobed or unlobed and then saucer-shaped, pubescent externally, ± subglabrous internally, awns if present linear, 1–5 mm; other bracts ± subrotund to deltoid or linear, sometimes lobed, to 3 mm, not fimbriate, awn if present ca. 1 mm; bracteoles resembling smaller bracts. Calyx tube 0.2–0.8 mm long, 1–1.5 mm wide halfway up; lobes valvate, triangular or rotund, 0.5–1 × 1 mm, pubescent at least near margin, sometimes carinate, rim sometimes lighter. Corolla white or light green; tube cylindrical, 2–3 × 1 mm; lobes 2–4 mm, sometimes thinly pubescent above near throat. Style fusiform to clavate, pubescent, exserted 2–3 mm. Fruits ca. 5–10 mm across, glabrous to pubescent, bluish green. Mature seeds 2 or 1, attached ca. halfway up septum, concave.

Additional specimens examined. CAMEROON. **South Province:** Ma'an, Nov. (young fr & fr), *Letouzey 15217* (P, YA); Adjou, 17 km SE of Ambam, Mar. (fr), *Raynal & Raynal 10148* (P); Mékomengona, 17 km SW of Ambam, Feb. (fr), *Raynal & Raynal 9897* (P). **Littoral (Centre?) Province:** 50 km NW of Eséka, Kéllé River, Nov. (fr), *de Wilde & de Wilde-Duyfjes 1293* (WAG). **Southwest Province:** Banga, Southern Bakundu Forest Reserve, Mar. (young fr), *Brenan 9280* (K), *9280A* (K).

Pavetta tenuissima is only known from Cameroon, though three collections have been from South Province so close to the border with Rio Muni, Equatorial Guinea, that it probably exists there as well. It also occurs in southern Littoral (Centre?) and Southwest Provinces. It usually grows in wet lowland primary forest and has been reported from both riverine and transiently inundated forest and on clayish soil.

Pavetta tenuissima has the finest mesh reticulation of higher order leaf veins in Cameroon species of subgenus *Baconia.* The prominent, subrectangular gridlike pattern formed by the secondary and tertiary veins below is conspicuous to the naked eye, and distinctive. This subrectangular, gridlike venation also occurs in *P. muiriana*; these two species also have similar floral morphology. *Pavetta tenuissima* can be distinguished from *P. muiriana* by its extremely fine leaf vein reticulation, smaller and more congested inflorescences, mostly larger leaves, and smaller corollas.

Inflorescences of *Pavetta tenuissima* occasionally (*Raynal & Raynal 9897, de Wilde & de Wilde-Duyfjes 1293*) are on floriferous twiglets so reduced as to render them axillary. In this respect and in its condensed inflorescences, *P. tenuissima* resembles *P. camerounensis* subsp. *brevirama* and *P. grossissima.* The latter two taxa, however, do not have the extremely fine higher order leaf vein reticulation of *P. tenuissima,* which is so named because of this feature.

28. Pavetta urophylla Bremekamp, Bull. Jard. Bot. État 26: 257. 1956. TYPE: Zaïre. Équateur Province: km. 28–29 of road from Bikoro to Lac Tumba, May 1936 (fl), *Louis 1997* (holotype, U not seen; isotypes, BR, K).

KEY TO THE SUBSPECIES OF *PAVETTA UROPHYLLA*

1. Anthers septate, most calyx lobes ecarinate ..... subsp. *urophylla*
1. Anthers not septate, most calyx lobes carinate with carinae produced into apiculae ..... subsp. *bosii*

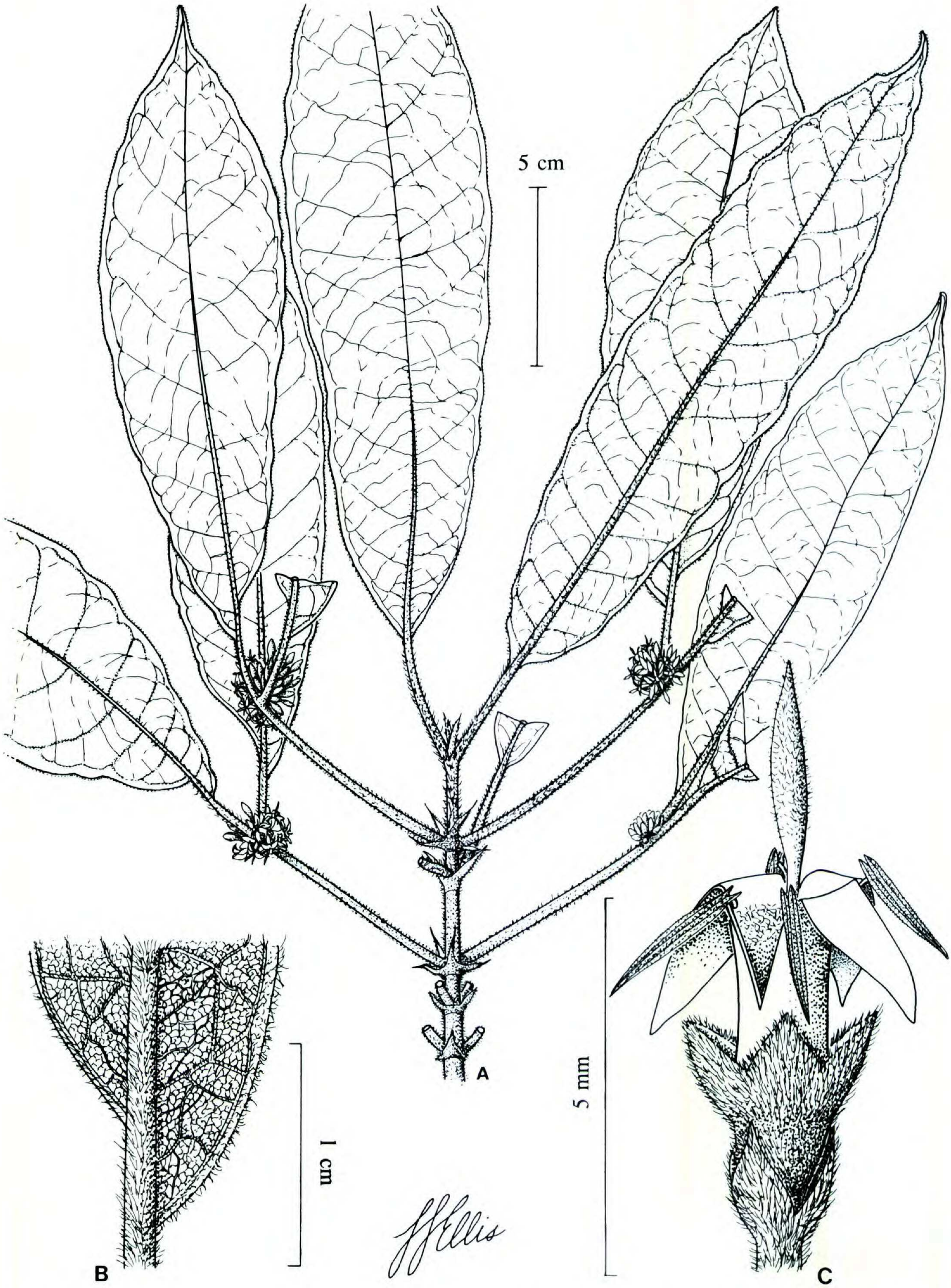


Figure 23. *Pavetta tenuissima* (*Letouzey 15211*, P).—A. Habit.—B. Lower surface of leaf base showing details of leaf venation, the finest seen in subgenus *Baconia*.—C. Flower.

a. Pavetta urophylla subsp. **urophylla**

Shrubs ca. 3 m. Twiglets glabrous, floriferous twiglets 6–24 cm. Leaves coriaceous, glabrous, sometimes anisophyllous; blades ovate to elliptical or oblong, sometimes asymmetrical, 5.5–29 × 2–11 cm; apex acute to obtuse, often asymmetrical, with acumen 10–45 × 3–12 mm; base cuneate to attenuate (or less often obtuse); midrib sometimes prominulous below, secondary veins (5–)10–14 each side, sometimes joined 3–5 mm from margin; mostly pubescent pocket domatia typically in most branch vein angles of midrib; nodules scattered on blade, usually conspicuous and more easily visible below; fourth and higher order venation obvious above and below; venation density fine. Stipules deciduous, rotund or deltoid lobed or unlobed and then cup-shaped, pubescent internally, glabrous externally, awn deciduous, the one seen cuspidate, ca. 1 mm. Inflorescences corymb-shaped, subcorymb-shaped, or pyramidal in outline, 2–7 cm across, ± lax, puberulent distally, subglabrous proximally, sessile, flowers 35–60(–100); sheathing bracts ovate lobed, deciduous, pubescent internally, glabrous externally, awns linear, 1–2 mm; other bracts obovate to linear, 0.2–2.5 mm, not normally fimbriate, sometimes with awn ca. 0.5 mm; bracteoles resembling smaller bracts sometimes present. Calyx tube 0.7–1 mm long, 1.5–2.5 mm wide halfway up; lobes valvate, subtruncate, ca. 0.1–0.5 × 1 mm, glabrous, usually ecarinate, drying brownish black, rim narrowly lighter. Corolla beige-tan; tube slightly broadening from base to throat, 2(–3.5) × 1–1.5 (–2.5) mm; lobes 4–5 mm, often thinly pubescent above near throat, reflexed. Anthers septate. Style fusiform, pubescent (to sometimes puberulent), exserted ca. 5–6 mm.

b. Pavetta urophylla subsp. **bosii** S. D. Manning, subsp. nov. TYPE: Cameroon. South Province: top of Calvary Mountain, 28 km ENE of Kribi, Lolodorf Road, Mar. 1970 (fl & young fr), *Bos 6611* (holotype, WAG). Figure 24.

A subspecie *urophylla* foliis valde discoloribus; inflorescentiis 3–5 mm pedunculatis; calyce lobis breviter triangularibus, denticulatis (ad interdum rotundato-compressos vel deltoideos), carinatis, carinis in apicula acuta productis; corolla lobis 2–4 mm; antheris nonseptatis differt.

Similar to subspecies *urophylla* except leaves more strongly discolorous; blades' venation density medium; inflorescences subglabrous distally, glabrous proximally, with peduncles to 5 mm with conspicuous ovate-lobed sheathing bracts at their bases and apices; bowl-shaped sheathing bracts also present distally on inflorescences; calyx tube sometimes only 0.5 × 1 mm, lobes short triangular, denticulate (or less often compressed rotund), with carinae produced into sharp apiculae, rim sometimes more broadly lighter; corolla brick red; anthers not septate; style puberulent to glabrous, exserted ca. 4–5 mm.

The most obvious features distinguishing subspecies *bosii* from subspecies *urophylla* are nonseptate anthers and apiculae on most calyx lobes. The more strongly discolorous leaves of subspecies *bosii* and the absence of extremely long acumens in subspecies *bosii*, such as sometimes occur in subspecies *urophylla*, are also noteworthy. Although the two subspecies could be considered separate species, this is not done because there are few collections and they clearly resemble each other more than either resembles any other known taxon.

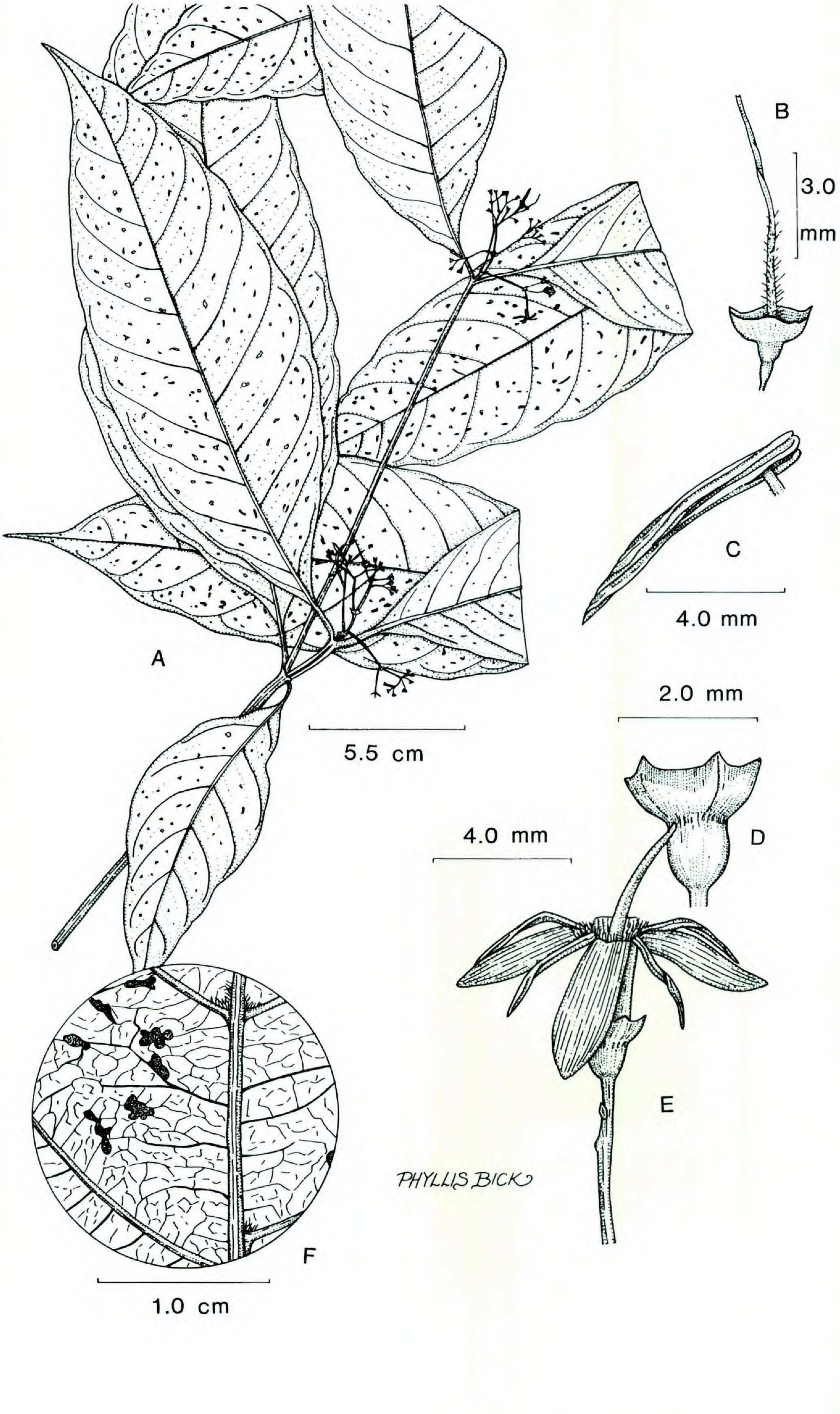
Subspecies *bosii* is known only from western South Province, Cameroon, in high forest, elevation unknown. Subspecies *urophylla* occurs in Zaïre and Congo. It has been collected at the edge of forest on sandy-clayey soil and in semideciduous, riverine, swampy, and seasonally inundated forests. Reported elevations from Zaïre are ca. 370 and 470 m.

Pavetta urophylla is one of the most distinctive species in subgenus *Baconia*. Distinguishing features are long leaf acumens, nodules more conspicuous from lower than upper leaf surfaces, brick red or beige-tan corollas, and calyx lobes often subtruncate near the base. Also, atypically in subgenus *Baconia*, the lower part of the style is not glabrous (Fig. 24).

29. Pavetta viridiloba K. Krause, Bot. Jahrb. Syst. 54: 353. 1917. TYPE: Cameroon. East Province: between Mpan (formerly Assobam) on Boumba River and Lomié, Apr. 1911 (fl), *Mildbraed 5120* (holotype, B destroyed; lectotype, selected here, HBG).

→

Figure 24. *Pavetta urophylla* subsp. *bosii* (*Bos 6611*, WAG).—A. Habit.—B. Flower, corolla removed to show style hairy below, glabrous further up, opposite of the normal situation in subgenus *Baconia*.—C. Anther.—D. Calyx.—E. Flower.—F. Part of lower leaf surface with domatia and bacterial nodules. Nodules in all other species of subgenus *Baconia* open toward the upper leaf surface.


A
5.5 cm
B
3.0
mm
C
4.0 mm
2.0 mm
D
4.0 mm
E
F
1.0 cm
PHYLLIS BICK

KEY TO THE VARIETIES OF *PAVETTA VIRIDILOBA*

1. Twiglets glabrous, leaf blades glabrous to subglabrous above, secondary veins only sparingly pubescent above (Fig. 25C) ..... var. *meurillonii*
1. Twiglets pubescent (to less often puberulent), leaf blades pubescent to subglabrous above, secondary veins densely pubescent above ..... var. *viridiloba*

a. Pavetta viridiloba var. **viridiloba**

Shrubs to 3 m. Twiglets pubescent (to less often puberulent), floriferous twiglets (6–)18–29 cm. Leaves chartaceous to coriaceous, sometimes anisophyllous; major veins pubescent, blades pubescent, sometimes thinly so, to subglabrous above, to puberulent below, obovate to elliptical, oblong (or less commonly ovate), 5–34 × 1.5–15.5 cm; apex obtuse to acute, subacuminate or with acumen 3–15 × 4–10 mm, acumen often at least as wide as long; base cuneate to attenuate, sometimes asymmetrical; midrib prominent below, secondary veins prominulous below especially toward base, 6–16 each side, eucamptodromous or brochidodromous; domatia absent except branch vein angles of midrib sometimes slightly indented or slightly more hairy than adjoining parts of veins; nodules absent, elongated along midrib or other veins, or scattered on blade; fourth and higher order venation usually obscure or invisible, usually slightly more easily visible below, visible on near-apical leaves on nonflowering shoot; venation density medium. Stipules deciduous, cup-shaped, pubescent internally and externally, awn linear to cuspidate, usually falcate, (<1–)1–9 × 1–2 mm. Inflorescences subcorymb-shaped to rotund or corymb-shaped in outline or with subunits of these shapes, 3–16 cm across, occasionally lax, pubescent, peduncle absent or to 8 mm; flowers 20–200, fragrant; sheathing bracts unlobed and cup- to saucer-shaped or subrotund to ovate lobed, pubescent internally, pubescent (to at times subglabrous with vestiture sometimes concentrated above subtending leaves) externally with awns resembling stipule awns 0.5–6 mm, linear awns 0.5–1 mm, or foliar appendages 2–7 mm; foliar bracts if present resembling but usually smaller than foliage leaves; other bracts ovate to linear, to 1.5 mm, sometimes with 1–several fimbriae 0.5–1 mm or fimbriae borne from axis directly; bracteoles resembling smaller bracts sometimes present. Calyx tube 1–1.5 mm long, 2.5–3.5 mm wide halfway up; lobes valvate, ovate to oblong, obovate, rotund, subquadrate or 2-lobulate owing to emarginate apex, 1.5–3 × 1–3.5 mm, pubescent, sometimes carinate, rim lighter. Corolla white; tube broadening from base to apex, 4–11 × (1–)1.5–3(–5) mm; lobes 5–8 mm. Style narrowly clavate, glabrous to puberulent, exserted 12–18 mm. Fruits ca. 5 mm across, subglobose or ellipsoid, thinly pubescent, pale gray. Seeds 1–2, attached ca. halfway up septum, concave, sometimes only shallowly so.

Additional specimens examined. CAMEROON. **East Province:** 9 km E of Lomié, Sep. (fr), *Leeuwenberg 6688* (WAG). **South Province:** Bitye, River Dja, Mar. (fl bud & fl), *Bates 1666* (BM, MO); between Dja River curve and Sangmélima, May (young fr), *Mildbraed 5468* (HBG); Ebemvok, 55 km W of Ebolowa, Mar. (fl bud and fl), *Raynal & Raynal 10432* (P, YA). **Centre Province:** 9 km E of Makak, June (young fr), *Manning 1970* (MO); 7 km ESE of Makak, June (young fr), *Manning 2037* (MO), *2095* (MO); 14 km SW of Yaoundé along new Yaoundé-Douala road, May (young fr), *Manning 1891* (MO).

b. Pavetta viridiloba var. **meurillonii** S. D. Manning, var. nov. TYPE: Cameroon. Southwest Province: Fontem, Mar. 1967 (fl bud), *Meurillon 617* (holotype, P). Figure 25.

A varietate *viridiloba* ramis glabris, foliis laminis super glabris vel subglabris, nervis secundariis super non nisi parce pubescentibus, inflorescentiis pubescentibus ad subglabras differt.

Similar to variety *viridiloba* except as in key to varieties. Also, pit domatia are occasionally present, the largest leaf seen has been 17 × 9 cm, and inflorescences can be partly subglabrous.

Variety *meurillonii* is recognized because, though it resembles variety *viridiloba* more closely than any other taxon, it is clearly different from all the collections of variety *viridiloba* in the features discussed above. It is also geographically distinct.

Variety *viridiloba* is endemic to south-central Cameroon, having been collected from South Province, southwestern East Province, and south-central Centre Province. Variety *meurillonii* is known only from the type from eastern Southwest Province, Cameroon.

Pavetta viridiloba occurs in primary and secondary forest including disturbed forest, and in relatively open areas, at elevations of 600–1300 m.

Bremekamp (1934) reduced *Pavetta viridiloba* to synonymy with *P. puberula*, but it is restored here. The two species can be distinguished in that calyx lobes are narrowly triangular with pointed tips in *P. puberula* but broadly ovate, oblong, or obovate or 2-lobulate (never with a pointed tip) in *P. viridiloba*. Further, there is almost always more vestiture in *P. viridiloba* than in *P. puberula*; calyx lobes are densely shaggily pubescent rather than only puberulent, and leaf blades are much more thickly pubescent.

Calyx lobes are usually green on herbarium sheets, accounting for the specific name, owing to vestiture thereon, a feature shared with *P. mpomii*.

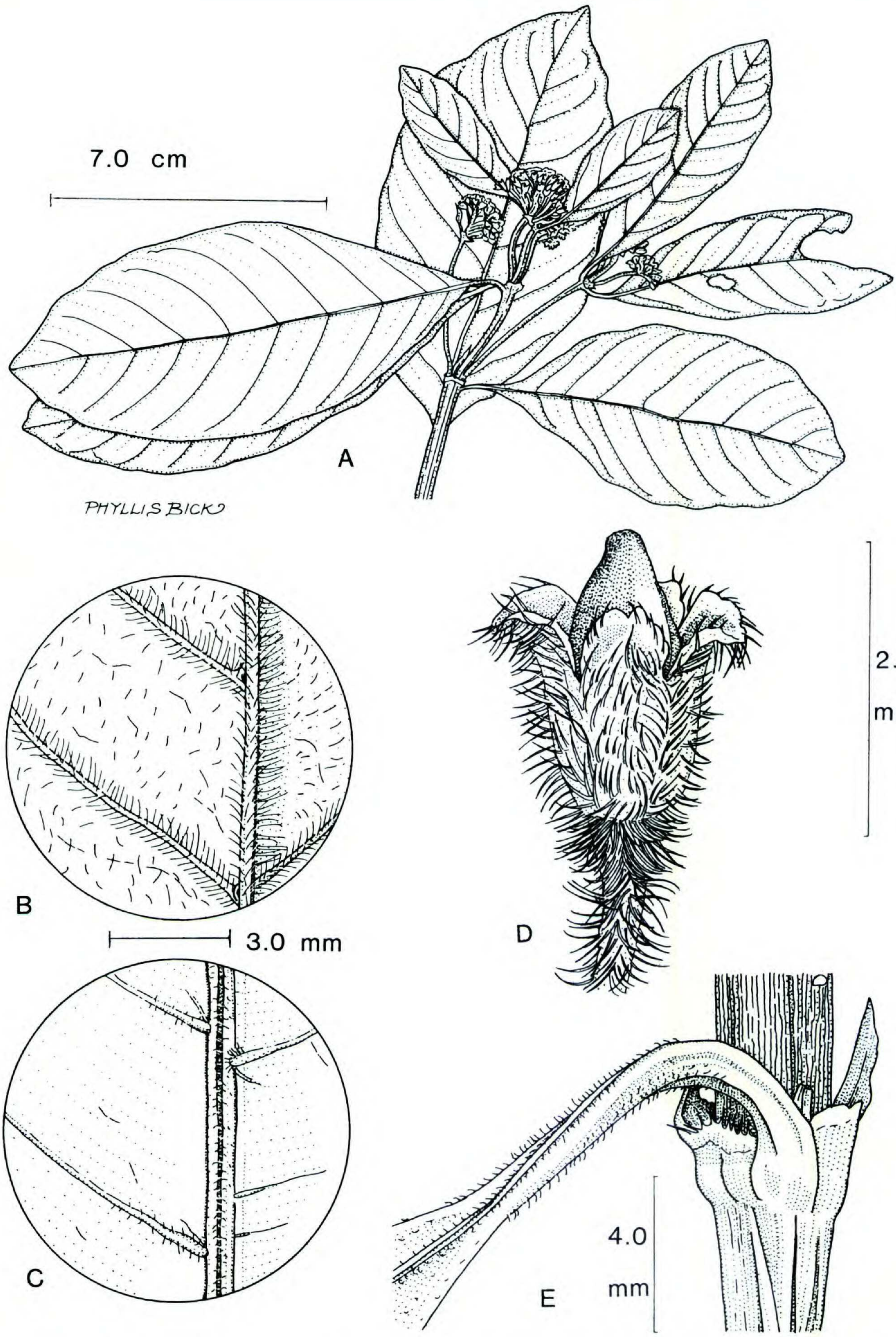


Figure 25. *Pavetta viridiloba* var. *meurillonii* (*Meurillon 617*, P).—A. Habit.—B. Part of lower leaf surface.—C. Part of upper leaf surface.—D. Flower bud.—E. Node and part of glabrous twiglet.

Calyces are usually longer and wider than those of most other taxa in subgenus *Baconia*. Leaf blades sometimes are among the largest in subgenus *Baconia*. They are olive green below.

Pavetta viridiloba can be distinguished from *P. mpomii* as in the key to species and as follows: some of its leaves reach a larger size than comparably placed ones in *P. mpomii*, floriferous twiglets are longer, most calyx lobes are more broadly elongate, corolla lobes are shorter, and styles are further exserted.

Occasional 5-merous flowers have been found in both varieties of *Pavetta viridiloba*.

The original species description did not indicate where the type was stored. *Mildbraed 5120* (B), seen by Bremekamp, is destroyed. *Mildbraed 5120* (HBG), the lectotype selected here, is the only duplicate of *Mildbraed 5120* found.

Taxon of Uncertain Status

Pavetta sp. near *brachycalyx. 34593 HNC = SCA 1938* (YA) was collected from an unknown location probably in the Southwest Province of Cameroon and possibly cultivated in the Limbe Botanic Gardens without data. Although previously identified as *Pavetta corymbosa*, it is actually closer to *P. brachycalyx*. It differs from *P. brachycalyx* in having larger leaves and more flowers per inflorescence. Its origin is unknown and its status marginal either within *P. brachycalyx* or as a new species.

Cameroon Species Excluded from This Treatment

Pavetta bangweënsis Bremekamp, Repert. Spec. Nov. Regni Veg. 37: 79. 1934. TYPE: Cameroon. East Province (probably): Bangwe (probably Bangué), *Conrau 66* (holotype, B destroyed).

No material fitting the description of this species has been found.

Species Not Known from Cameroon

Pavetta ankolensis Bridson, Kew Bull. 32: 610–612. 1978. TYPE: Uganda. *Eggeling 3709* (holotype, K; isotype, EA not seen).

Pavetta annobonensis Bremekamp, Repert. Spec. Nov. Regni Veg. 47: 16–17. 1939. TYPE: Equatorial Guinea. Pagalu Island, Sep. 1911, *Mildbraed 6676* (holotype, B destroyed; isotype, HBG).

Pavetta dermatophylla Mildbraed, Notizbl. Bot. Gart. Berlin-Dahlem 13: 704. 1937. TYPE: Equatorial Guinea. Pagalu Island, Sep. 1911, *Mildbraed 6749* (holotype, B destroyed; isotype, HBG).

Pavetta gossweileri Bremekamp, Repert. Spec. Nov. Regni Veg. 37: 64. 1934. TYPE: Angola. Nov. 1911, *Gossweiler 5211* (holotype, BM).

Pavetta hymenophylla Bremekamp, Repert. Spec. Nov. Regni Veg. 37: 68. 1934. TYPE: Tanzania. Lushoto District: Amani, Aug. 1911, *Grote 3541* (holotype, B destroyed; isotypes, EA not seen, K).

Pavetta dalei Bremekamp, Repert. Spec. Nov. Regni Veg. 37: 72–73. 1934. TYPE: Kenya. Mt. Kenya, Oct. 1932, *Dale 3054* (holotype, K).

Pavetta intermedia Bremekamp, Repert. Spec. Nov. Regni Veg. 37: 71. 1934. TYPE: Zaïre. Kivu Province: Lesse, Mar. 1914, *Bequaert 3136* (holotype, BR).

Pavetta ixorifolia Bremekamp, Repert. Spec. Nov. Regni Veg. 37: 79. 1934. TYPE: Guinea. Fouta Djallon: Dalaba, Feb. 1907, *Caille 18137* (holotype, P).

Pavetta kasaica Bremekamp, Repert. Spec. Nov. Regni Veg. 37: 69. 1934. TYPE: Zaïre. Kasai: Ipamu, June 1921, *Vanderyst 10774* (holotype, BR).

Pavetta micheliana J.-G. Adam, Bull. Inst. Fondam. Afrique Noire Sér. A, Sci. Nat. 35: 87–89. 1973. TYPE: Liberia. Mt. Nimba, Yiti valley, Jan. 1965, *Adam 20735* (holotype, P not seen; isotype, K).

Pavetta micrantha Bremekamp, Repert. Spec. Nov. Regni Veg. 37: 74. 1934. TYPE: "Centralafrika" (Zaïre, Ituri?). Between Frumu and Mawambi, 1908, *Mildbraed 2908* (holotype, B destroyed; isotype, HBG).

Pavetta mollissima Hutch. & Dalziel, Fl. W. Trop. Africa 2: 91. 1931. TYPE: Ghana. 1929, *Vigne 1601* (holotype, K).

Pavetta monticola Hiern, Fl. Trop. Africa 3: 170. 1877. TYPE: São Tomé & Príncipe. São Tomé: *Mann 1074* (holotype, K; isotype, P).

Pavetta nitidula Hiern, Cat. African Pl. Collect. by Dr. Friedrich Welwitsch in 1853–61. Volume 1 part 2: 486. 1898. TYPE: Angola. Pungo Andongo, 1856–1857, *Welwitsch 3189* (holotype, BM).

Pavetta congensis Bremekamp, Repert. Spec. Nov. Regni Veg. 37: 67. 1934. TYPE: Zaïre. Likimi, Feb. 1910, *Malchair 64* (holotype, BR).

Pavetta coriacea Bremekamp, Repert. Spec. Nov. Regni Veg. 37: 69. 1934. TYPE: Uganda. Ruwenzori, Nov. 1893, *Scott Elliot 8310* (holotype, K).

Pavetta obanica Bremekamp, Repert. Spec. Nov. Regni Veg. 37: 77. 1934. TYPE: Nigeria. Oban, 1911, *Talbot 359* (holotype, BM).

Pavetta oblongifolia Bremekamp, Repert. Spec. Nov. Regni Veg. 37: 65. 1934. TYPE: Sénégambia. 1838, *Heudelot 673* (holotype, K; isotypes, BM, W).

Pavetta oresitropha Bremekamp, Repert. Spec. Nov. Regni Veg. 37: 73. 1934. TYPE: Equatorial Guinea. Bioko Island, Nov. 1911, *Mildbraed 7135* (holotype, B destroyed; isotype, HBG).

Pavetta polyantra Bremekamp, Repert. Spec. Nov. Regni Veg. 47: 21. 1939. TYPE: Gabon. Upper Ogowé: Lastoursville, Oct. 1929, *Le Testu 7541* (holotype, Herb. Le Testu = BM, isotypes, BR, P).

Pavetta puberula Hiern, Fl. Trop. Africa 3: 171. 1877. TYPE: Gabon. Sierra del Crystal, July 1862, *Mann 1718* (holotype, K).

Pavetta redheadii Bremekamp, Repert. Spec. Nov. Regni Veg. 47: 18. 1939. TYPE: Zambia. Mwinilunga, Nov. 1937, *Milne-Redhead 3429* (holotype, K; isotype, BR).

Pavetta schweinfurthii Bremekamp, Repert. Spec. Nov. Regni Veg. 37: 66. 1934. TYPE: "Central Africa" (Sudan?). Gr. Seriba Ghaddar, Apr. 1869, *Schweinfurth 1341* (holotype, K).

Pavetta ternifolia (Hooker f.) Hiern, Fl. Trop. Africa 3: 177. 1877. TYPE: Tanzania. Bukoba District: Karangwe, Feb. 1862, *Speke & Grant 422* (holotype, K).

Pavetta yalaënsis Bremekamp, Kew Bull. 8: 501. 1954. TYPE: Kenya. Nandi District: Kaimosi, N of Yala River, May 1933 or 1951, *Rogers 741* (holotype, K marked 1933; isotypes, BM marked 1933, BR marked 1951, EA not seen, S marked 1951).

Pavetta urundensis Bremekamp, Repert. Spec. Nov. Regni Veg. 37: 66–67. 1934. TYPE: "West Urundi" (Burundi?). *Meyer 1037* (holotype, B destroyed).

Pavetta virungensis Bremekamp, Bull. Jard. Bot. État 14: 307–309. 1937. TYPE: Zaïre. Kivu: Virungu Mountains, Karisimbi volcano, Feb. 1932, *Lebrun 4952* (holotype, BR).

Pavetta vanderijstii Bremekamp, Repert. Spec. Nov. Regni Veg. 37: 68. 1934. TYPE: Zaïre? Kikveil (= Kikwit?), Oct. 1920, *Vanderyst 8133* (holotype, BR).

Pavetta yambatensis Bremekamp, Repert. Spec. Nov. Regni Veg. 37: 74. 1934. TYPE: Zaïre(?). Yambata, Feb. 1914, *De Giorgi 1718* (holotype, BR; isotype, K).

Pavetta zimmermanniana Valeton, Icon. Bogor. 2, Fasc. 3 tab 143. 1904. TYPE: Indonesia, Cultivated in *Bogor Botanic Garden* as #*603*, origin uncertain, not seen.

The "South Cameroons, Gaboon River" specimen of this species, *Mann 961* (K), is from present-day Gabon rather than Cameroon.

Species Not Known from Cameroon Originally Described in but Subsequently Excluded from *Pavetta* Subg. *Baconia*

Tarenna funebris (Bremek.) N. Hallé, Adansonia 7: 505. 1967. *Pavetta funebris* Bremek., Repert. Spec. Nov. Regni Veg. 37: 63. 1934. TYPE: Zaïre. Kasai: Mpio-mpio, Aug. 1921, *Vanderyst 10221* (holotype, BR).

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